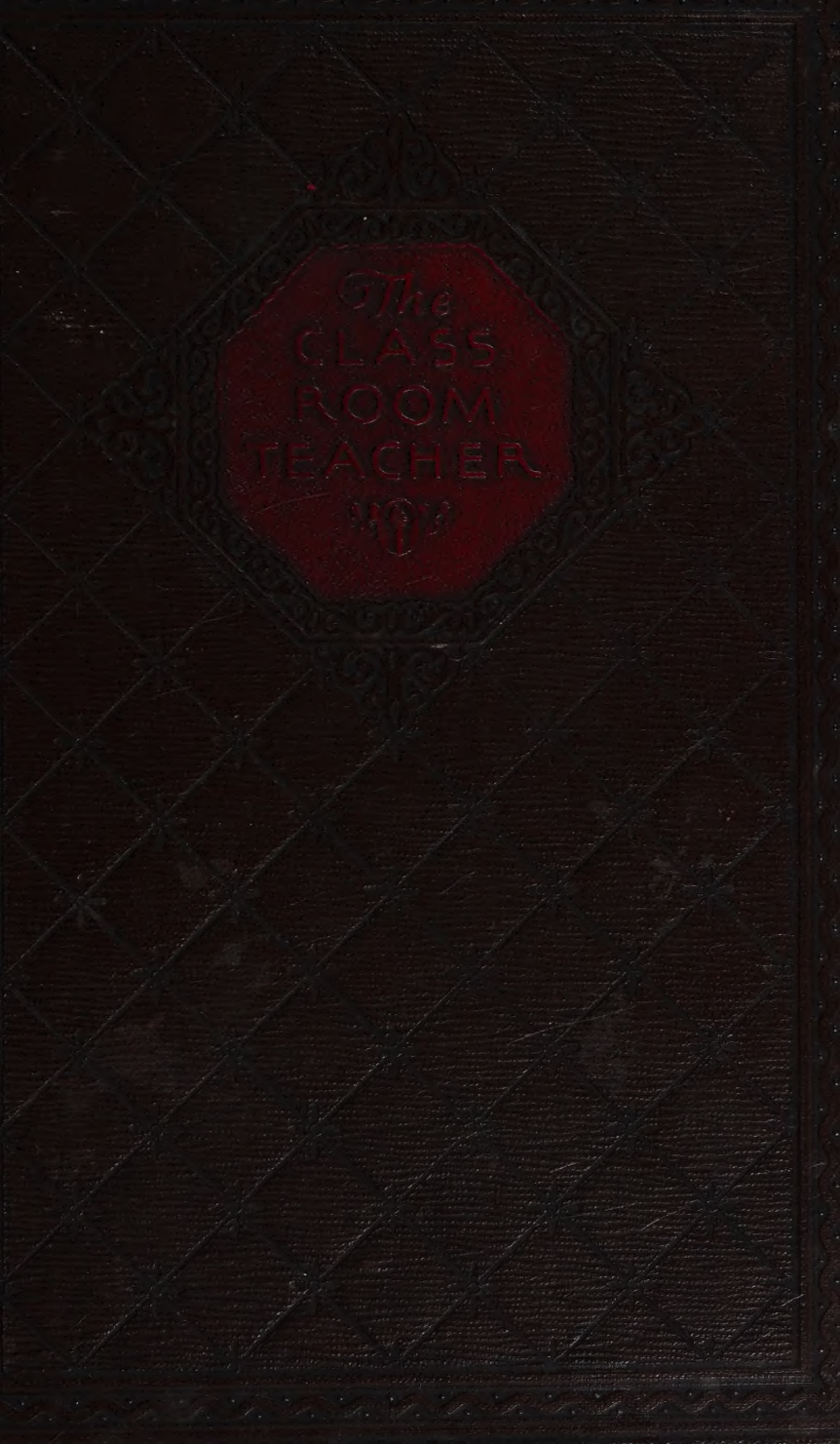
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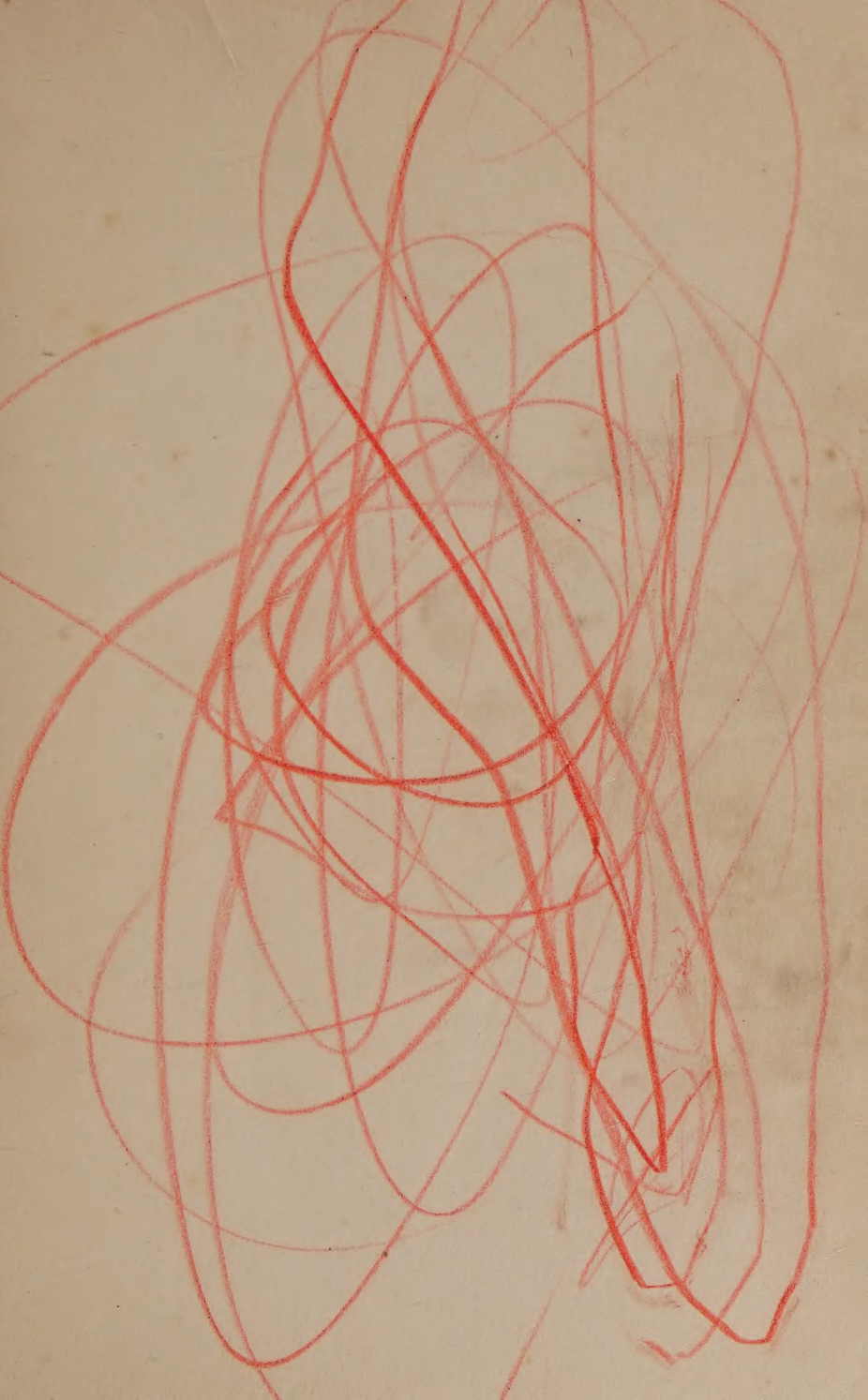

THE CLASSROOM TEACHER

VOLUME IV

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CONTENTS

VOLUME FOUR

Primary Art

CHAPTER PAGE

I. Purpose of the Course—Art Education and Life 3

II. Art—Grade One 13

III. Art—Grade Two 55

IV. Art—Grade Three 108

V. Supplementary Problems for All Grades . . . 158

Primary Music

CHAPTER

I. The Child Voice 179

II. The Rote Song 197

III. Music in the Kindergarten 214

IV. Music in the First Grade 229

V. Music in the Second Grade 254

VI. Music in the Third Grade 263

VII. Creative Activity in Music 274

VIII. School Assemblies 278

CONTENTS

Primary Arithmetic

CHAPTER		PAGE
I.	The Problem of Teaching Primary Arithmetic	311
II.	General Suggestions for the Classroom	317
III.	The Work of Grade One	333
IV.	The Work of Grade Two	344
V.	The Work of Grade Three	360
VI.	Number Games in Primary Classes	404

Community Life and Social Study

CHAPTER		
I.	Value of Teaching Community Life in the Primary Grades	417
II.	The Study of Home Life	422
III.	The Study of Community Life	445
IV.	The Study of Farm Life	463
V.	The Study of Indian Life (Including the Eskimo)	509

PRIMARY ART

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PRIMARY ART

CHAPTER ONE

PURPOSE OF THE COURSE

ART EDUCATION AND LIFE

THE modern slogan of the art advocate in America is "Art for Life's Sake." The fundamental objective of the curriculum in art for the elementary school should be "Art for Life's Sake." A course of study based upon this principle will make the child realize that beauty through art exists in the common things of everyday life as well as in the masterpieces of painting, sculpture, and architecture.

APPRECIATION OF BEAUTY. Beauty is one of the great assets of the human race. To provide for a practical knowledge and appreciation of this asset surely is a matter of great importance in education. The chief aim of education in this sense is to train the coming generation in the consciousness and understanding of beauty, and in the use and value of beauty in the home and community life and in the great realm of industry. This fundamental *beauty* is the basis of the course of study in art. An art course should interpret this quality and should provide for pupil-experiences which will unfold its marvels to the maturing child gradually, systematically, and according to his intellectual and emotional capacity as a student in the different divisions of the school.

In the primary grades the chief aim of the art work is to aid in guiding the play impulse and in developing imagination, color sense and discrimination, the graphic vocabulary, the sense of orderly arrangement, and to introduce children to the great realm of art, and in so doing to lay a practical foundation for the later art work of the school. Any course of study in art should provide for a logical development of knowledge, understanding, and experience in the field of art adjusted to the maturing mind of the child.

Art Projects. In the kindergarten and primary grades we find the children active, rhythmic, imitative, and full of imagination. These inclinations are made in this course a basis for problems and exercises which will hold the interest of the child and be a pleasure to him. In the primary grades and in fact throughout the school the art activities become vitalized if they are developed in connection with and directly contribute in a practical way to some grade project of importance. The idea of a definite project around which the instruction of the entire grade may be coordinated is outlined and described fully for Grade I.

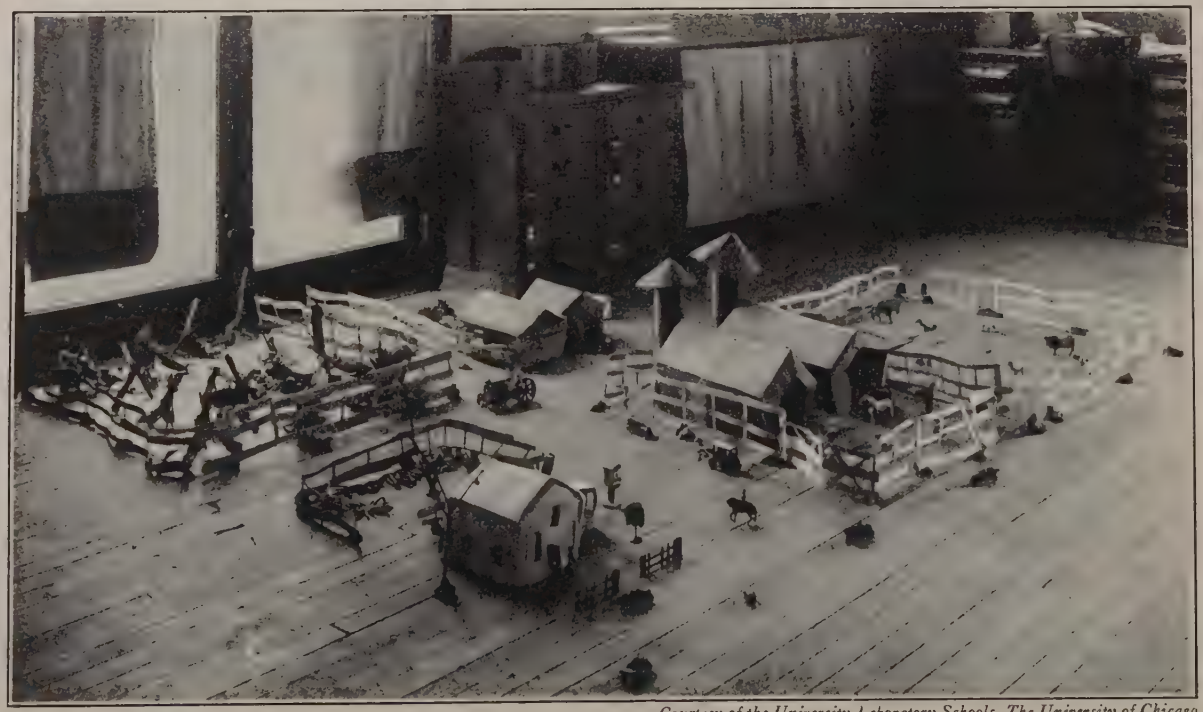
Several possible project topics have been suggested for each grade, such as The Farm and Store for Grade I, and The Circus, Noah's Ark, Indian Life, Dramatization, Outdoor Activities and Nature Study (theater, music, games, and amusements) for Grades II and III. All of the problems and exercises in a grade, however, do not relate to the designated grade topics. The work has been so planned that problems and exercises may be articulated, by a slight modification, with practically any grade project which it might seem desirable to present. Several special topics are also suggested under "Supplementary Problems" at the end of the course. These topics, such as Hallowe'en, Thanksgiving, Christmas, Valentine's Day, and Easter, should be studied in all grades. In developing the course of study and in organizing the subject-matter for each grade a definite and progressive sequence of problems and exercises is provided, extending throughout the grades.

VARYING THE COURSE. Teachers should feel perfectly free to alter the sequence to meet their particular demands. For example, instead of completing a project such as Farm Life or Indian Life in one grade, several problems might be started in one grade and be carried on to higher grades. Thus the problems of the course may be modified to permit progressive development in various directions over a period of two or three years.

Teachers who follow this course of study without much substitution may modify the grade topics at times to meet particular locality or seasonal needs. The work can easily be adjusted to meet such changes. For example, one school may be located in the country where the environment of nature provides fine old trees for study, flowers in abundance, and fruit, nuts, and vegetables in season for use in the classroom if desired.

In another community fine landscapes may inspire special work in the sketching of quaint old houses, picturesque bridges and streams, or distant mountains. In the city or town possibilities for cooperation with the museum offer opportunities for art activities not afforded by the rural environment. In one neighborhood antique furniture or other heirlooms and objects of plain and simple form may be obtained for study, while in another community pet animals and birds may easily be procured for use in the art classes. Any good material which offers opportunity for securing added interest among the children should be inserted into the course.

The important thing to keep in mind in using a course of study is the advantage of having a logical and systematic method of grouping subject-matter. However, outlines for the development of courses should be considered as suggestions rather than as absolute requirements. Teachers should freely modify exercises and problems in accordance with varying conditions, provided they follow the general type of work indicated and strive to attain the aims and objectives that are outlined for the course.



Courtesy of the University Laboratory Schools, The University of Chicago

PLATE 1. A visit to a farm inspired this project built directly on the floor. The children reproduced the farm in detail

Courtesy of the University Laboratory Schools, The University of Chicago

PLATE 2. This farm project required many kinds of handwork. Note the reading charts and posters on the wall

ORGANIZATION OF SUBJECT-MATTER

A carefully balanced sequence in art makes a fourfold educational contribution to the school program. The well-rounded art course may be classified with respect to the types of learning afforded the pupil into four divisions as follows:

Drawing (The graphic experience).
Design (The ornamental experience).
Construction (The motor-constructive experience).
Appreciation (The visual-mental experience).

Drawing. Under drawing emphasis is placed upon free expression through the mediums of pencil, crayon, water colors, and tempera pigments. The development of the graphic vocabulary and the use of drawing as a language, or form of expression, constitute an important part of the work. The ability to present ideas graphically and to use drawing for the illustration of themes and other work in the school is desirable. Observation is developed by the study of drawing.

Design. Under design emphasis is placed upon the study of order and decorative treatment, the principles of arrangement, and the use and purpose of ornament. Valuable training in invention, imagination, originality, and creation is provided by the study of design.

Construction. Under construction emphasis is placed upon three-dimensional work, the constructive processes, project work and group activities, and the supplying of human needs. The relation of art to industry and vocational guidance is considered under this heading. Construction provides motor activities which are valuable in the development of the child and gives to the work a practical use and value.

Appreciation. Under appreciation emphasis is placed upon the enjoyment and use of beauty in many forms.

PLATE 3. A color chart and a color exercise appropriate for the first grade

Picture study, however, comprises the chief topic for consideration under this heading in the primary grades.

Within the four divisions just given is included all the art work of the course—drawing, painting, design, color, lettering, paper-cutting, poster-making, modeling, various types of construction, and picture study.

Color. Color attainment is discussed in each grade, but it is not treated as a separate topic in this course of study. It is so closely interwoven with all the art activities of the school that it is difficult to isolate it as a special subject. There will be times, of course, when drill and special information will be needed in order to understand and properly use color. At such times the necessary amount of experimentation should be provided to enable the pupils to meet the requirement for the problem in hand.

Picture Study. The study of fine pictures is a most delightful and inspiring part of the modern art course. It not only furnishes pleasure and profit in itself, but it furnishes excellent interpretive material for other subjects.

The chief aim of picture study in the lower grades is to stimulate an interest in good pictures on the part of the children. When interest is aroused pupils may be guided and directed gradually to an understanding and appreciation of the art qualities which give to pictures their real excellence.

The pictures reproduced in this course of study are excellent examples of the modern reproductive process and are the very finest types of color work that it is possible to obtain. It is intended that the pictures in the book be shown to the children. The book may be opened and placed in a vertical position on the teacher's desk where the children may come and look at the picture. At the study period the teacher may have the children gather around her and may show them the picture as the lesson proceeds.

The following general plans have proved successful in presenting picture-study lessons to children:

1. General discussion of the picture. The children should do most of the talking during this phase of the study.

2. Discussion of significant art features according to the age of the pupil and his ability to understand and appreciate these details.

3. Some general reference to the artist's life and the significance of his contribution to art.

THE ILLUSTRATIONS. The illustrative material used with the course of study is provided to assist the teacher in securing the best possible results from the suggestions set forth in the text. A number of the drawings are reproductions from the actual work of children and show what may be expected from pupils of good average art ability. Most of the illustrations, however, have been prepared by students in the practice-teaching and teacher-training departments of the School of Education, The University of Chicago. All of the pen drawings were made by Ruth Aley, a student in the Art Department.[1]

The illustrative material prepared by these student-teachers is intended to present appropriate examples of good rendering and different methods of using the mediums of art in a more effective manner than could be expected from the actual work of children. The method of execution in every case is exactly the same as advocated for the children in the different grades. A maximum of suggestion is, therefore, supplied by this type of reference material and while the teacher cannot expect to secure results of similar character in her grade, she will be able to use this material more effectively in preparing her lesson plans than would be the case with reproductions from children's work. Many fine examples of masterpieces of art have been reproduced in color and half-tone for inspiration and study. The remaining illus-

[1]Special acknowledgments are due to the following students for use of illustrative material: Ruth Aley, Dorothy French, Minnie Allen, Lucy Runnels, Merlon Van Etten, Celie Regnier, Ann Van Nice, and Lucile Reimers.

Special acknowledgment is also made to Marjorie Hardy and Nina Jacobs for observations made in the first grade of The University of Chicago Elementary School; to Myrna Todd of Duluth, Minn., for observations made in that city; to Elizabeth Haseltine for observations made at the Art Institute of Chicago; and to Emily Dorn Pearse for reproductions of art work from the Milwaukee, Wis., public schools.

trations are photographic reproductions of actual classroom situations and project achievements.

The course has been freely illustrated because this procedure offers the simplest and most direct method of encouraging the teacher in following the course of study and in striving for the best possible results in her school. In art work, objective material is always more valuable and helpful in presenting ideas than written or spoken directions. If the teacher would remember this fact in the preparation of her lesson plans from day to day, far more satisfactory attainment would result in the classroom and greater interest and enthusiasm would be evidenced on the part of the pupils.

MATERIALS FOR PRIMARY GRADES

The following list of materials is recommended for the primary grades. If it is impossible for each child to own a full set of materials the teacher should arrange so that two children can cooperate in the use of different items. Suggestions for securing other material incidental to special problems are given from time to time in the text.

Paper: Manila paper or bogus paper (a cheap, heavy gray paper), 9x12.
Manila or bogus paper, 12x18.
Tinted construction paper, 12x18, 24x36.
Pencils: One soft and one hard pencil for each child.
Colored crayons: Two boxes of wax crayons for each child.
Water colors: One box of colors containing red, orange, yellow, green, blue, violet, burnt sienna, and black. One tube of Chinese white.
Clay or plasticine: Prepared plasticine or clay. Good clay suitable for modeling can usually be found in the school neighborhood and should be used if possible.

Scissors, rulers (divided into inches for first grade, half inches for second grade, and quarter inches for third grade), soft erasers (H), tracing paper, sticks for stick-printing, and

good paste will be needed and may be furnished by the children or supplied by the school.

The following reliable firms make a business of supplying schools with art material. Teachers should write for catalogs of supplies and equipment.

The Abbott Educational Co., 208 S. Wabash Ave., Chicago.
American Crayon Co., Sandusky, Ohio.
Binney and Smith Co., 41 E. 42nd St., New York City.
Milton Bradley Co., Springfield, Mass.
Devoe and Raynolds Co., 14 W. Lake St., Chicago.
Favor, Ruhl and Co., 425 S. Wabash Ave., Chicago.

Every school library and every teacher of art should be a subscriber to *The School Arts Magazine.*[1]

Exhibition Material. Teachers should begin with the first art problem and save good examples of students' work. At the end of the year a quantity of extremely interesting material will be available for exhibition showing the attainment of the children in art throughout the school year.

[1] *The School Arts Magazine*, published by The Davis Press, Inc., 44 Portland St., Worcester, Mass. Subscription rate $3.00 a year in advance.

CHAPTER TWO

ART — GRADE ONE

THE art work of the first grade is developed as a contributing factor to the general grade projects. The background and inspiration for art work should be based largely upon the various projects being developed from time to time. If subjects covering a broad field of activity are chosen a very rich opportunity for correlation is provided and the work of the entire grade is made interesting and profitable.

Many different types of projects are recommended for the lower grades, all having special values and opportunities for educational development. "The Farm and Country Life" project offers, perhaps, a more direct and vital interest to little children than many of the more elaborate and pretentious topics. Hence, this subject is described fully as a typical activity for the stimulation of creative and constructive desires of first-grade children.

ART EDUCATION THROUGH PROJECTS. Handwork in connection with the farm project provides for the correlation of extensive exercises along many lines appropriate for beginners in the school. For this reason this project has been chosen as a type subject for demonstration of the relation of art to project teaching. It is a topic particularly appropriate at the opening of the school year, for the children have just returned from their vacations and in many cases bring with them valuable experiences relating to farm and country life. During the autumn months direct contact with the "outdoors" provides possibilities for extension of the work.

A store or village project may be suggested later as a place to market the produce from the farm. Other handwork topics such as The Post Office, The Home, The Garage, The Fire Department, or similar topics suggested by the children, may be added (see Community Life, p. 417).

Special Days. The seasonal topics, Hallowe'en, Thanksgiving, Christmas, Valentine's Day, Easter, the national holidays, and Arbor Day have established themselves as regular parts of the different grade programs. These subjects always give splendid opportunity for handwork and add a fresh interest and enthusiasm to the work. Seasonal topics may be undertaken as supplementary material for regular projects, or they may be added as extra activities at appropriate times of the year. Teachers should feel free to bring into the grade activities as many different special topics as can be provided without slighting or confusing the main features of the course.

Guiding the Interests of Children. In planning for grade handwork the children should be led to suggest the topic for study and should be permitted to take the initiative in planning the work. According to authorities[1] on the project method, children should be given ample opportunity for experimentation with materials and ideas before dictated problems or directions are given. Careful guidance, however, is necessary in this work. After the first crude attempts on the part of the children, results may be discussed and suggestions made as to improvement and further procedure. In this way the interest of the child and of the group is stimulated and the work proceeds rapidly as new ideas and suggestions are developed.

In handwork and art exercises a certain amount of organization and guidance is essential for successful results. The children should be allowed all the freedom possible without really hindering in the procedure of the problem. Certain art objectives should be determined upon for each project and for the grade, and the final results of instruction should show that these objectives have been attained.

Objectives for First-Grade Work. The general aim throughout the work of the first grade is to develop group consciousness, responsibility, and cooperation, to teach some-

[1]Samuel Chester Parker and Alice Temple, *Unified Kindergarten and First-Grade Teaching*. Boston: Ginn and Co.

thing of the interdependence of mankind, and to lay a foundation for later studies in home membership and citizenship. Particular importance should be placed upon the development of the child's appreciation of the part that art plays in modern life.

SUBJECT-MATTER

While the work of the grade is properly based upon definite projects, the subject-matter of art should not be neglected. It is necessary to plan the program in the beginning so that certain art requirements are provided for and so that outcomes of the instruction will show definite attainments in various art abilities. The art requirements are to be developed in connection with the different projects as they naturally suggest themselves in the development of the work. The minimum essentials in art for the first grade may be summarized as follows:

1. *Drawing and illustration.* The development of the "graphic vocabulary," as the work in drawing is often called, deals with the representation of large, simple type objects and articles for use in connection with the grade projects. The aim is to awaken an interest in drawing as a means of expression and to encourage its use as a form of language. The illustration of stories and subjects connected with the farm, home, store, and other projects offers a fascinating exercise for the children. This work may be carried out through the mediums of pencil, crayon, water color, and paper-tearing or cutting.

2. *Design and arrangement.* Order is one of the first considerations of our educational program. It aids the individual in his adjustment to the world in which he lives.

The child first learns the importance of order when he is taught not to leave his playthings scattered all over the floor. In the arts order is a paramount factor, for without it there would be no art. It is advisable to introduce the child to the principles of order or design early in life. In the first grade he

may recognize the value of order in arrangement, in his *repetition* of units for a *border* or for a *pattern*. He must learn order in writing and lettering. The exercises in design can be used to supply many things for the projects under way. Design may be developed in crayon, paper-cutting, stick-printing, or water color.

3. *Color*. The work in color is tied up with all the other problems in the course, but some special drill is required to present to the child the fundamental considerations of color for each grade. The child should learn in the first grade to recognize the six spectrum colors, red, orange, yellow, green, blue, and violet, and to match these colors accurately.

The six major color sensations and two values (one light and one dark value) for each color comprise as extensive a field of color-teaching as is practical for the first grade.

4. *Construction* (*three-dimensional work*). Construction is carried on through the building projects, the sand-table projects, and the minor problems developed in connection with the various exercises of the course. Through constructive activities, contact is made with the topics of industrial arts, holidays, seasons, and special events. Careful correlation with all subjects in the grade is greatly desired.

5. *Appreciation*. The point was emphasized at the beginning of this course of study that the first aim of art work in the public school should be the development of a consciousness of the relation of beauty to life. The term "appreciation" should not be restricted to the study of pictures, but should include the study of beauty everywhere. In the first grade the child should learn something of the simplest forms of beauty. Children delight in pictures which they can understand, and these offer an opportunity to introduce the child in a simple way to the field of art.

The pictures suggested for study have been selected because of their possible subject-matter interest to children, and because their content is related to the projects being studied in the grade. Other pictures may be added if desired, but care must be taken that the subjects are appropriate.

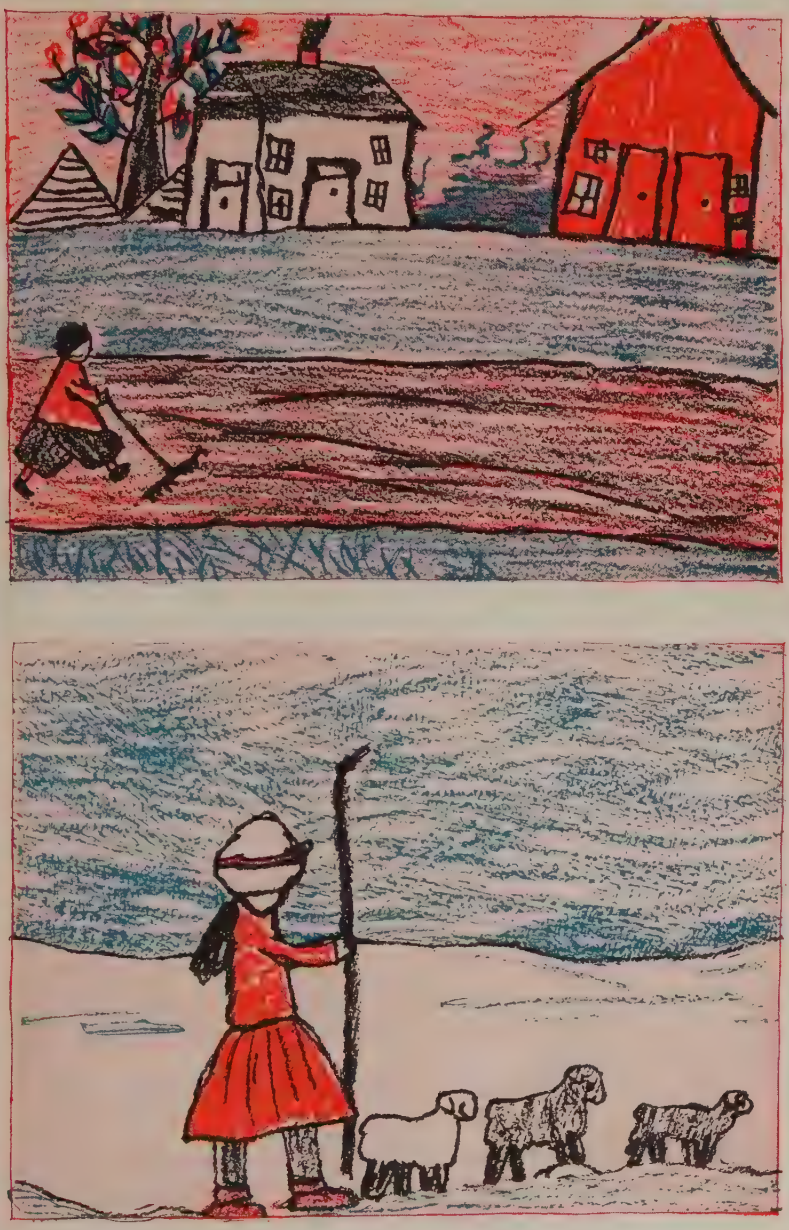


PLATE 4. Spontaneous crayon drawings by first-grade children

MATERIALS AND EQUIPMENT

The simplest material and equipment may be used in handwork. Orange boxes, egg and milk crates, or shipping boxes of any kind are very useful. Newspaper and wrapping paper, paper bags, string, spools and spindles, boxes, cans, milk-bottle tops, pieces of cloth, magazines and picture books, twigs and dried weeds, cotton, paper toweling, buttons, excelsior, pasteboard cartons, wire—practically anything can be used in the constructive activities. The pupils should be encouraged to bring usable things from home and the teacher should develop sources of free supplies from the stores and shops in the neighborhood.

Scissors, crayons, paints, paste, glue, clips, fasteners, rubber bands, needle and thread, cardboard, raffia, sponges, paste sticks, thumb tacks, and clay and plasticine should be supplied by the school. The greater the supply of materials on hand the greater will be the challenge to invention and originality.

THE FARM AND COUNTRY LIFE PROJECT

ON THE first day of the school year the teacher should see that the children become acquainted with one another and should try to make them feel at home in their new surroundings. How much the first day of school means to the little child who has never spent a day in school one cannot realize who has not seen the excitement of the child as he started to school. Even though he has been in kindergarten for a year, he still is very enthusiastic about getting into the first grade.

In some schools all the children speak English, but in many others they speak different languages. If we have an English-speaking class nothing will be more interesting than to have each child tell something that happened during the summer. After the children have told their experiences the

teacher may say, "Let us draw some pictures. I saw a farmer with a hayrack. I'll show you how it looked. Shall I draw the picture on the board?" Some children will want to draw pictures on the board of things they saw in the summer. Then they will see that there isn't room for everyone to draw on the board so the suggestion may be made that each child draw on paper. Children like to draw in color. Crayons hard enough so that they will not rub are the best for this purpose. Crayons with pure bright colors should be used. Nine-by-twelve-inch paper is a good size for first grade. It is not too large for the children's desks and is not so small that it cramps their hands.

We have supposed that the children can speak English. Now let us look in on a room where children cannot understand one another. Selma speaks Swedish, Tony, Italian, Ina, Finnish, etc. The teacher can find nothing better than a drawing lesson to make them feel at home. If she gives them the crayons and paper they will make a picture. Very fortunate is the teacher of art in this first-grade room. She will see the peasant scenes of Norway and Sweden made by the little foreigner who just came across the ocean. She will be delighted with the rhythmic lines in the drawing by the Italian child. He can draw on paper an idea that he can convey to the whole class, even if his spoken language cannot be understood. He feels that he has contributed to the work of the first day. It is his school and he has found his place.

The exercises in drawing can be planned so that the child's interest will be centered upon farm life. Good pictures of farm scenes cut from magazines, newspapers, or catalogs may be placed in the schoolroom, and the teacher may read or tell the children a story about farm life which will further stimulate their interest along the line desired. The pictures for study in the lessons on appreciation at the end of this chapter have been chosen because of their value in this respect. A profitable lesson with these pictures, emphasizing the story of farm life, might be given at this time.

Beginning the Farm Project. Following the first day

the teacher should place supplies and material in the room (see p. 18), so that the children may be encouraged to make objects and things pertaining to farm life. If the children decide to make a barn, free undirected construction of the barn should be undertaken, each child being permitted to select his own material. The best attempts should then be selected and discussed. It will be unusual to find a grade where the children can make a barn which will satisfy their desires at the first attempt. If the pupils show little initiative the teacher may construct a simple barn while they watch her. Cardboard boxes may be used for the barn and other buildings by merely adding a roof, windows, doors, and chimney.

Although the children in many first-grade classes live in the city, a number of them visit farms during the summer, and some child will probably suggest making a farm scene. A sand table is not so good for representing the farm as a larger platform on the school floor. However, if the room is too small and crowded to allow for space on the floor a sand table offers the best solution.

Two illustrations of farm projects are shown in Plates 1 and 2. These give an idea of different methods of procedure as developed by the different first grades in the same school. Study these illustrations carefully for suggestions and details of arrangement.

The animals, trucks, automobiles, and similar objects may be modeled out of clay, or toy animals and trucks may be brought from home. The exercise of modeling objects has the advantage of giving the children the opportunity to express themselves in three dimensions, but the placing of toy animals, trucks, etc., on the farm often makes it seem more real and gives a better scale, for smaller animals can be obtained than the ones which the children model.

Free Experimentation. In the construction work for the farm the pupils should be allowed to experiment freely in making the objects before they are given directed work. They should be encouraged to experiment and develop initiative in construction. After the children have made a start,

the teacher may guide them and help them over their difficulties. For example, the children may be using too much paste, or perhaps the paste will not stick, and the teacher may suggest the use of glue. The teacher should place any materials in the room that will suggest ways of constructing things. Tops of milk bottles suggest wheels and save much time. Circular cartons can be used for tanks or silos.

Although the children are left to experiment a great deal by themselves this does not mean that there is no need for the teacher to plan. She must plan to create situations that will lead the children to initiate further steps in the project.

The teacher of a large class must encourage and help the children to form committees to carry out different parts of the work. One child may have charge of the orchard, another may have charge of the construction of the silo, while others may be working on the barn, house, cornfield, fences, road, or other features.

Different Ways of Making Trees. The trees for the farm may be made in many different ways. The children may suggest various ways of making them. Twigs and dried weeds, sponges, wire, and excelsior are helpful. If the teacher sees that the children are having difficulty in making the trees big enough for the other objects she can place before them some material that will help them in increasing the size. For example, suppose that the farm is in a part of the country where there are tall pines. Twigs, dyed sponges, dyed weeds, etc., are not tall enough to look like pines. The teacher should supply cardboard rolls which she has asked a grocer to save for her or she may suggest rolling up paper and pasting it together to form the trunks. The grocer can also supply wooden stands that come inside of rolls of wrapping paper. These cardboard trunks may be placed upright upon the wooden stands, painted brown, and branches made of green paper may be added to give the effect of pine trees. These are now taller than the house and the children are greatly pleased with the results.

DETAILS OF THE FARM SCENE. Of the two Plates 1 and 2, showing ways of constructing a farm scene the first shows a farm constructed directly upon the floor. The other picture shows the possibility of using a movable platform so that the project may be placed in the middle of the room when the children are working upon it, and may be moved back to a corner out of the way at other times. Different objects for the farm were made in many ways by different children. The following suggestion may be helpful:

Platform. A permanent platform may be made in the carpenter shop for use with all projects, or the children may make one with the aid of the teacher. In either case it should be solid and stable so that objects may be placed upon it without continually toppling over with each slight jar or movement of the children around it. Green paper may be used for the lawn and may be fastened to the platform with thumb tacks. Gray paper is good for the road and brown paper represents the fields. These different colored plats give the whole farm a more realistic appearance and make the finished product more attractive.

Paper fence. For the farm scene illustrated the fence was cut out of ordinary manila paper. The posts were cut rather wide and bent over at the bottom to make it stand upright.

Corn shocks. These were made of raffia or crêpe paper. A bunch of raffia or paper was tied so that ends stuck out at the top and was bound around with small strips to resemble a corn shock. Real corn husks may be used for this purpose if they can be secured.

Pumpkins. Pumpkins were made of clay. After the clay had dried they were painted orange.

Buildings. The children were given large pieces of paper. Each child made an attempt to construct a house. Many of them made it round, without any corners. When they saw one child making it with corners, others tried to do this by cutting four pieces and pasting them together for walls. They folded a piece of paper for the roof. One child had a good roof, one had better walls, one had better windows.

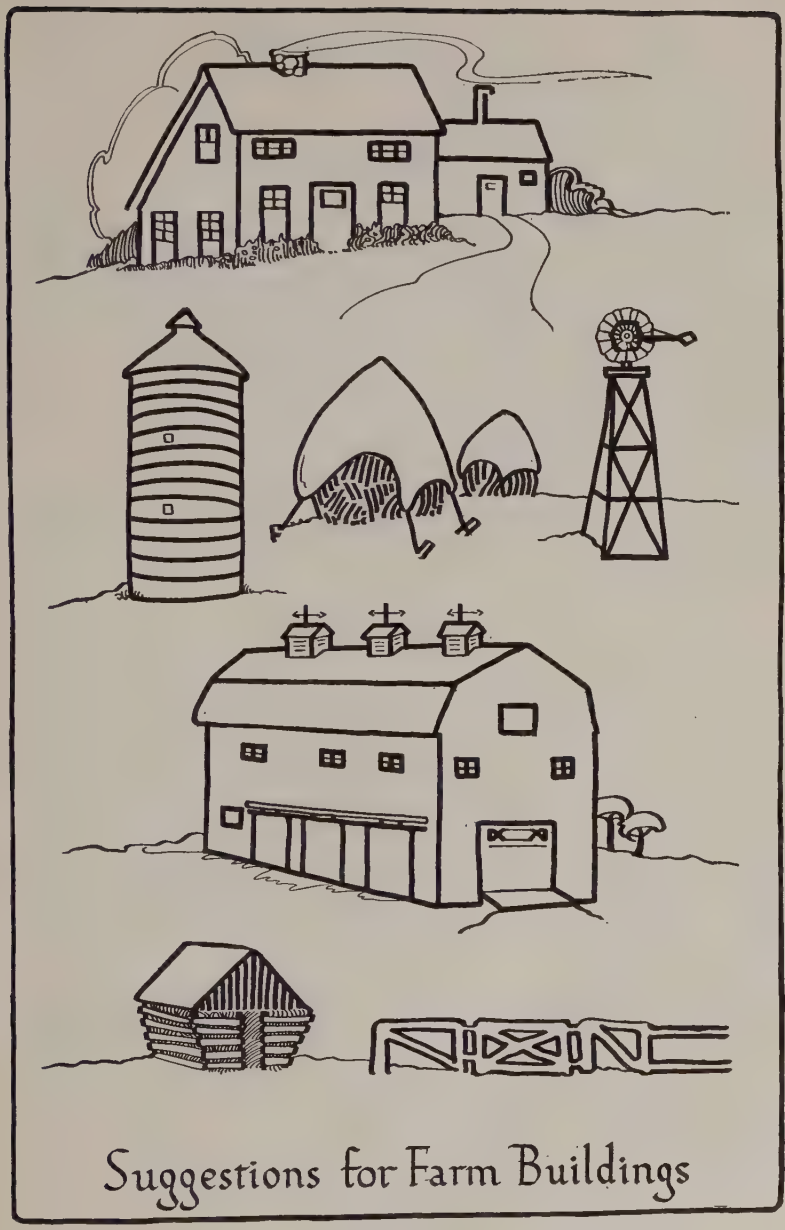


PLATE 5

The children all sat down in a group on the floor and discussed the best points of all the houses. More houses were made. These were better than the first. Barns and other buildings may be made in the same way. Plate 5 suggests various types of farm buildings.

Apple trees. Twigs were used for apple trees. A little plasticine fastened them to the floor. Pieces of red plasticine were stuck to the branches to represent apples. In this work plasticine is much better than clay, for the clay hardens and falls off while the plasticine sticks to the twigs.

Silo. A paper was rolled for the silo and a circular piece of paper slit to the middle so that it would roll into a cone was used for the roof.

Garage. The garage was made something like the house. The experience in making the house made the construction of the garage easier. The garage in the illustration on page 7 is a toy one made of tin.

Automobiles. The automobiles were toys brought from home. It does not seem advisable to take as much time as would be necessary at this point to make objects of this character. This, however, would vary in different schools. Some rooms have so many children that each division has much seat-work time. In this case the children would be able to construct little automobiles. Rectangular cardboard boxes would give them something to start with. Paper fasteners could be used to fasten the hood to the foundation. Cardboard painted with ordinary house paint or enamel makes the automobile look like a real one and for that reason pleases the children.

Animals and figures. It seems better in most cases to use toy animals and figures than to try to make them for the first few projects. Often, however, the children will suggest making animals out of plasticine or clay. Although the ones modeled by the pupils are often crude, they are sometimes more expressive than the toys.

A paste stick may be wrapped with colored paper to suggest a person. A ball of plasticine may represent the head

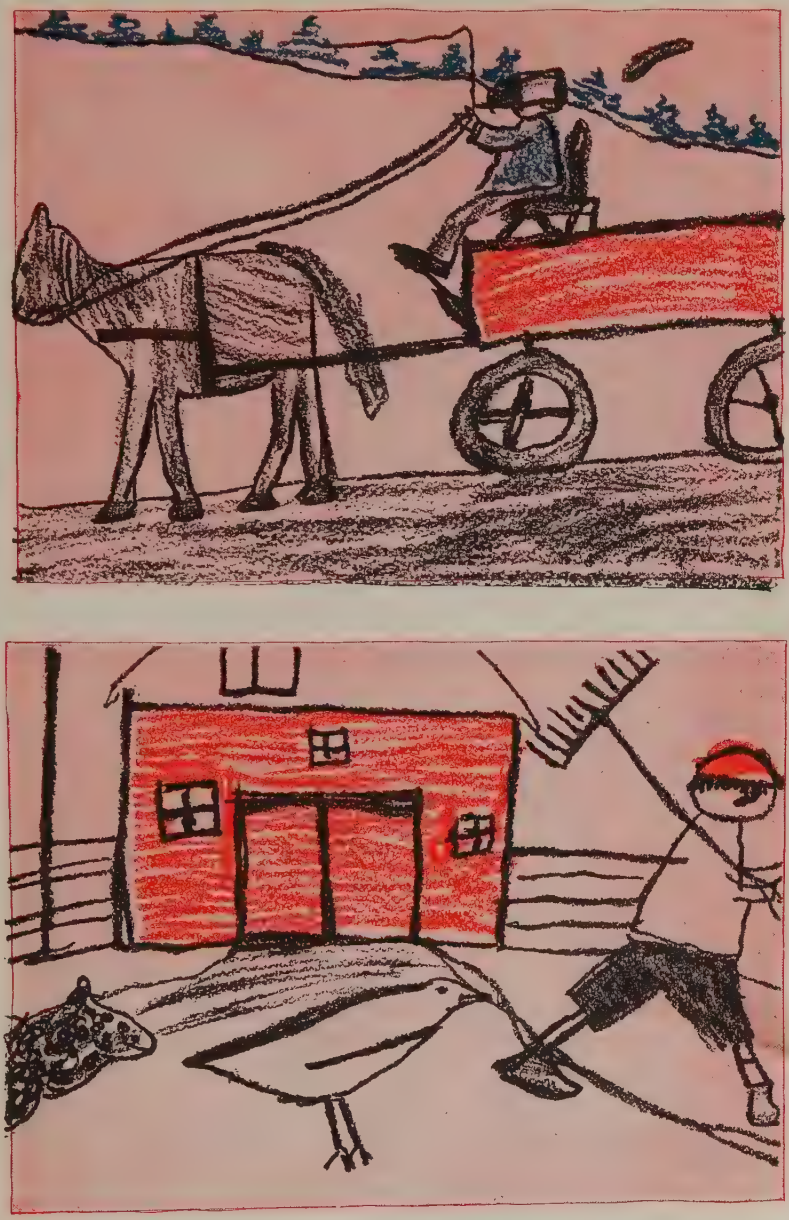


PLATE 6. Free drawing of farm scenes by first-grade children

and toothpicks with balls on the end will suggest hands. The figure may be held to the floor by a piece of plasticine. The entire person may be made of plasticine and then covered with paper to suggest clothes. Tissue paper and crêpe paper are good for this purpose for they can be crushed small without tearing. Paper dolls cut out of fashion plates and made to stand by a piece of cardboard are often used by children to represent people.

The whole aim in this work is to represent farm life. Any way in which the figures and animals can be obtained without hindering the progress of the project is advisable. In one room it will seem best to have the children make them. In another room it will seem best to have them brought from home.

Distributing the Work. In doing the construction work for the farm we must guard against letting a few children do all the work. The children will naturally want the best barn to be used for the farm, the best house, and the best objects, generally, and these are almost always made by the same children.

Here comes the need for some dictated work to aid the less gifted helpers. The project exercise may be stopped temporarily and some work in drawing, design, or other forms of art may be substituted to provide experiences for all members of the group. A simple poster problem may be undertaken to illustrate some special feature, such as the topic for a reading lesson. This exercise may be dictated and in such work all children will succeed. The work of the less original may be chosen and used on reading charts. Thus, every child may have a chance to contribute something toward the group activity, and the more gifted ones too have been helped. The more experience a little child can have the more original he can become.

Reading charts are shown hanging over the blackboard in the illustration on page 7. The pictures for these were cut from farm magazines and made into posters by the children. A large commercial poster featuring pumpkins and corn

shocks is also shown in the illustration. The children should be given as much illustrative material as possible to aid their imagination.

MEDIUMS FOR ART EXPRESSION

The question may be asked by the teacher as to what mediums are most appropriate for art expression in the first grade. The aim of art work with very young children is largely that of expression. Any medium which will help us in this respect is desirable. The ones which will give us the most expression are the ones we will use most of the time. Crayons, paints, paper-cutting, clay, plasticine, cardboard and paper construction, and construction with big blocks are all employed in first-grade work. All of these mediums provide profitable exercises in connection with practically all projects of the school.

CRAYON DRAWING

Children in the first grade can express themselves better with crayons than in any other medium. Ordinary pencils are just as easy to use, but they are not so attractive because they have no color. Crayons are better for quick expression than paints because they are a simpler medium to handle. The child in order to express himself well must not be conscious of the medium. In painting, his interest for a time at least is taken up with the manipulation of the brush, the mixing of the pigment with water, and its placement upon the paper. Therefore, the beginning work in drawing for first-graders should be with crayons. Plates 4, 6, 11, on pages 17, 25, and 36, respectively, show excellent crayon technique for first-grade children. They represent farm scenes, Little Bo-peep and her sheep, Santa Claus, and Red Riding Hood. Notice how the farmer, Santa Claus, and the little girls have been drawn, and compare these with the method sheets for developing figure-drawing in Plates 8, 9, 10, pages 30, 33, 35.

How to Draw a House. In connection with the project activities the children may be taught systematically how to draw a very simple house. Plate 7 presents a good method for teaching the drawing of a house for the graphic vocabulary. It will be necessary to eliminate all details, for the children will be able to express only the large lines. Simplification almost to the point of a symbol of a house is desirable. The teacher may draw this "symbol house" on the board, line for line, while the children draw on paper, following her as she draws. From this type they can draw a barn and sheds for the farm. Learning how to draw the house, even if the method has been dictated in a very formal way, has helped them to make the barn and sheds. In the study of transportation in a later grade, it will help them to make elevators, lighthouses, and other similar objects.

Combining Free Expression and Directed Work. The teaching of drawing offers a difficult problem in the first grade. Many teachers go to the extreme of *all expression*, with no dictated work. Some go to the opposite extreme and make the work so formal that the child has no chance to originate. Both free expression and directed work have their place and should be used according to the individual needs of the pupils.

In schools where no formal drawing is given in the first grade, the children are one year behind in drawing all through the elementary school. If no formal work in drawing is given in the first grade or second grade, it is impossible ever to make up the deficiency.

The drawing will be chiefly for expression. The children are satisfied with their crude symbols even if the teacher, parents, and visitors cannot understand what they represent. The time is coming, however, in the third grade when this will not be true. We, therefore, feel the need of starting a graphic vocabulary in Grade I, even if it is a very limited one.

Method of Developing a Figure. Children in Grade I draw figures with the face usually front view, and with a large, ugly mouth, a square or triangle for a body, two lines

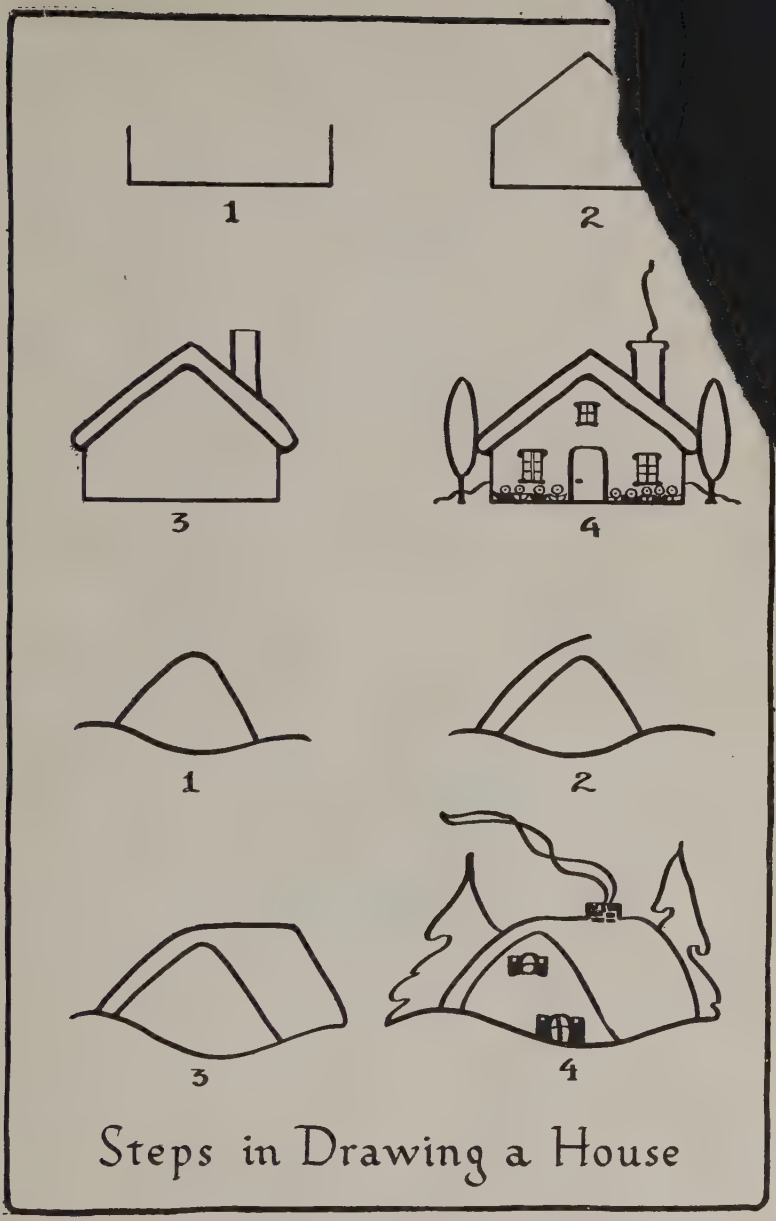


PLATE 7

PLATE 8

for legs, and showing five fingers. Their results are expressive and very interesting. A few carefully planned drawing lessons, however, will not destroy the expressiveness or the interest of a child's drawing efforts. Instead, they will give him a real basis for effort and stimulate confidence in the results.

Let us take some characters from stories well known by most first-graders, such as Red Riding Hood, Goldilocks, the Farmer, and Santa Claus, and help the children to draw them. Let us reduce the figures to a very simple representation, making them side view and in positions which may occur in the story so that they will be useful to the children when they want to make original pictures. Let us make the heads quite round and the legs with straight lines, as children cannot appreciate little subtle curves.

It is a good plan to show how the drawing is made on the blackboard as well as on paper. The child can see the board better, and will get the form and size better than from the paper. Methods of developing a figure are shown in Plates 8, 9, and 10. Plate 14, on page 40, shows the finished drawings of Red Riding Hood, the Farmer, and Santa Claus. These were made by students in the teacher-training department of The University of Chicago to illustrate the type of rendering appropriate for first-grade children. Plate 11 shows the same figures used in drawings made by children in the first grade.

PAINTING

Little children should draw on the size paper that seems easiest for them. Nine by twelve inches seems to be the size that suits them best. Paper smaller than this cramps their hands and makes freedom of expression more difficult. After the children have had more experience in drawing with crayon on the easiest-sized paper, they will enjoy trying to draw or paint on very large paper.

Easel Painting. Little children like to paint in a large free way, and working with big brushes on an easel gives

them an ease of expression not otherwise possible. Water-color paint is the best medium for this purpose, and may be transparent or opaque. Cheap opaque calcimine paint or fresco colors, such as one can buy at a paint shop, and white, gray, or tan wrapping paper also furnish good material for easel painting. Long brushes, some large and some small, should be used. The easel may be merely a drawing board or a piece of heavy cardboard upon which the paper may be fastened and placed in a slanting position on a chair. It should be placed in such a position that the child can walk back from it and view his picture from a distance.

A good way to introduce easel painting to children is for the teacher to have the children gather around her in a group on the floor while she paints for them picture after picture on an easel. They will be eager to try it themselves. She should therefore paint simple pictures, according to the method which the children will best be able to follow when they have an opportunity to try for themselves.

PAPER-CUTTING

We would not limit the children to crayons or paints, of course, for that would deprive them of other mediums. Paper-cutting has a particular value of its own. It is a fine medium to use in teaching children how to make simple posters.

All children like to cut paper. We have all seen very small children take wrapping paper and monotonously cut it into pieces with scissors. We can use this interest to teach some of the big considerations of art work. For example, the most important factors in poster work are carrying quality and simplicity. This we can teach children better by paper-cutting than by any other medium. Subjects for paper-cutting must be simpler than for crayon drawing, for the little child cannot cut details. The color scheme can be limited to one which is startling and shows strongly at a distance. Paper-cutting is an excellent medium for direct forceful expression. All small lines and details must be eliminated and

PLATE 9

Suggestions for Drawing Red Riding Hood and Goldilocks

the attention is directed forcefully to the basic form of objects.

A few children can cut figures and objects free-hand without drawing them first, but most children can succeed better if they are allowed to draw the figure first. They should be cautioned then to paste the figure with the pencil side down so that the pencil lines will not show on the finished picture.

Plate 12, on page 38, shows cut paper illustrations of Boy Blue and the Farm. These were made with white, neutral gray, and black paper to give the children the idea of making a poster that had carrying power. After this lesson they were given an opportunity to make posters in color. The teacher made separate piles of all six colors, and black, gray, and white. The children were permitted to go to the piles and get the piece they needed. Each child showed his poster to the teacher before he pasted it. She then made suggestions—for instance, in the case of one child that he make a certain object a different color to make it show off better.

Before the children could make these posters, they had to be taught how to draw haystacks, barns, cows, and other objects and people needed in the picture. Every paper-cutting lesson should be preceded by definite work in drawing objects needed.

The children had to be shown how to paste. A little child naturally uses too much paste. He puts it all over the object to be pasted so that it oozes out from the edges and makes the picture look very untidy. He may be told to put little dots of paste around the edge of the object to be pasted. Details for cutting paper letters are given on page 44.

Color Study and Paper-Cutting. Plate 3 illustrates two ways in which color study may be correlated with paper-cutting in first-grade work. Ask the children to select the six spectrum colors from the stock of colored paper and cut a strip one and a half inches wide by nine inches long from the paper of each color. Paste these on gray cardboard (12x18 inch) so as to produce a series of colors as follows: red, orange, yellow, green, blue, and violet. This will form a color-recognition chart which may be used in teaching the children

PLATE 10

Suggestions for Drawing Santa Claus and the Farmer

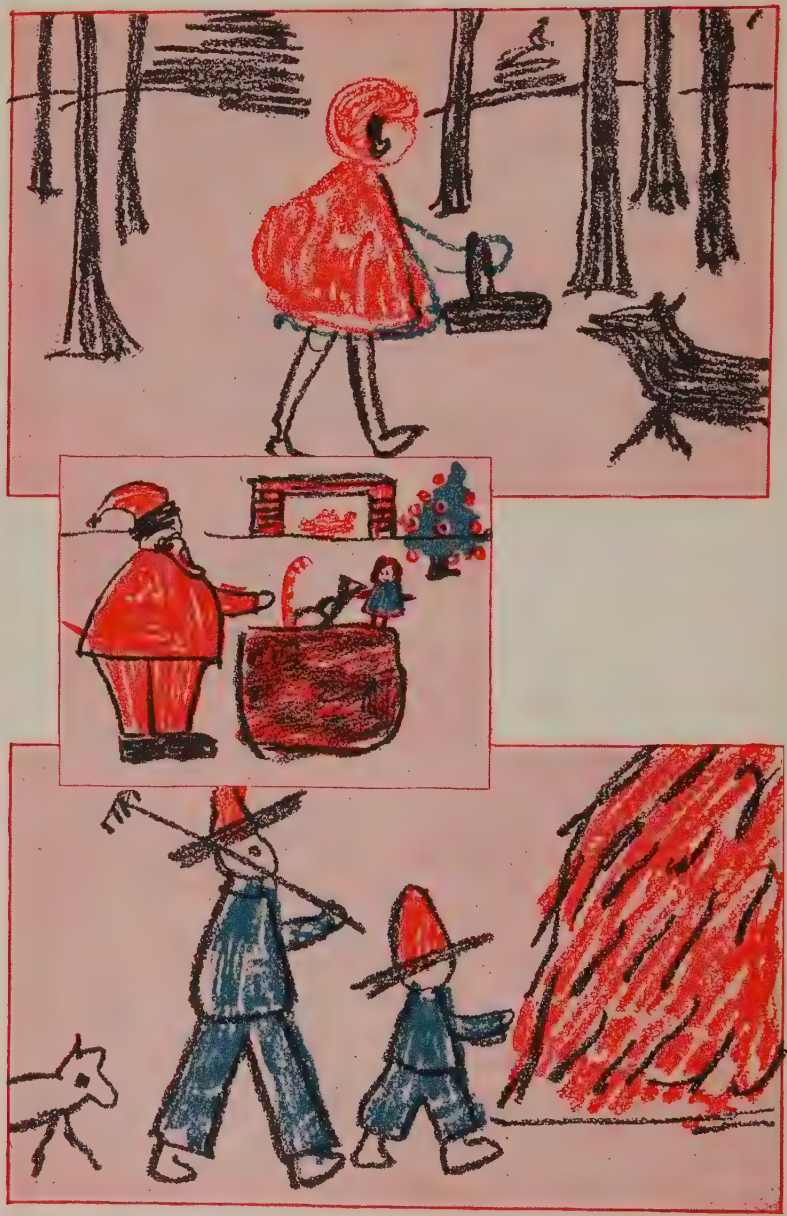


PLATE 11. Red Riding Hood, Santa Claus, and The Farmer as drawn by first-grade children

to discriminate among the different colors. This chart will also be very useful in helping the children to match the colors of things which they bring from home.

Later in the year the children should be taught to recognize two values for each color, i. e., a light value and a dark value. When they have experimented with the six colors and a light and dark value for each, they should then plan, cut, and arrange a landscape composition using the color knowledge they have thus obtained. For example, in making the illustration of the barnyard scene the following color scheme may be used: dark green ground and trees, red barn, blue sky, and yellow chickens (see Plate 3). A farm garden scene may be made showing flowers of red, yellow, orange, violet, and blue, light green grass, dark green leaves, gray sky, and a white picket fence.

MODELING WITH CLAY AND PLASTICINE

Modeling is an excellent exercise for the first grade and should be encouraged whenever possible in connection with project work. It gives the children direct expression in three dimensions and provides an opportunity to place emphasis upon *form* expression rather than *line* expression as is apt to be the case with crayon drawing.

Children in the first grade, and in other grades as well, should learn something of the practical relation of clay to their lives. Point out that many of their homes, the school building, and many public buildings are made of clay or brick. The children may wish to make some small bricks as a problem. Tell them how dishes are made of clay and fired. They may wish to make small dishes for the farmhouse.

In this way some information in regard to an elemental study of industry may be given. In each grade added information may be supplied which will acquaint the child with the value of clay products in everyday life. In the department on Industrial Studies an exhaustive study of clay and its uses, with directions for making clay dishes and vases, is given (see Vol. III, p. 552).

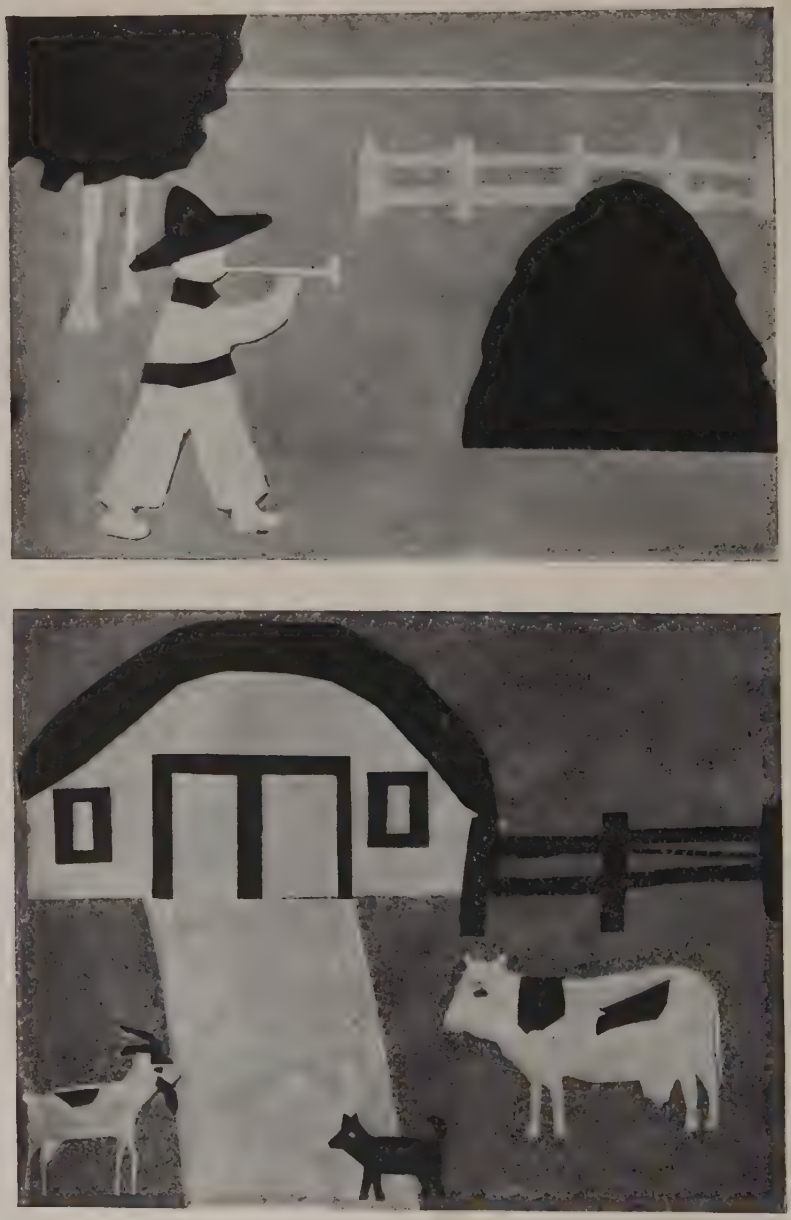


PLATE 12. Paper-cutting of Boy Blue and of The Farm, showing the poster quality obtainable through this medium

Courtesy of Elizabeth Hazeltine

PLATE 13. Expressive modeling by primary children

PLATE 14. Finished drawings of Red Riding Hood, The Farmer, and Santa Claus. These were made by student-teachers to show types of rendering appropriate for first-grade work

Plasticine, as the name implies, is an artificial plastic material manufactured to resemble clay. It is mixed with oil and for that reason will not dry or harden quickly, but will remain in a plastic and workable condition almost indefinitely. Clay is a cheaper medium for schools, but plasticine is better for first-graders if it can be obtained. Little children's hands are so hot that the clay usually dries and crumbles before the object is finished, or if it is finished it is very easily broken. For modeling animals plasticine is usually better than clay, for the legs of the animals can be stuck on and will not come to pieces or fall off. It rubs together easily and has the advantage that it can be wedged together and used over and over again. Plasticine comes in white, brown, and black, as well as in the usual colors. Thus Holstein cows can be made with black and white spots.

On the other hand, for modeling vegetables and fruit for the farm or store, clay is better than the plasticine. For example, it is easy to roll the clay into round apples and it hardens quickly. When the apples are dry the children enjoy painting them bright red. Modeling of fruit and vegetables in this way and painting them in gay colors is fascinating work for children. The colors make them more attractive. Of course, we have colored plasticine and this may be used, but the colors are dull and do not represent the real colors of vegetables and fruit. Bright orange carrots, red apples, yellow bananas with brown spots, and purple grapes are demanded by the children.

Plate 13, page 39, shows the freedom and spontaneity of expression obtained by first-grade children through modeling.

LARGE-SIZE CONSTRUCTION

This topic has already been discussed to a certain extent in connection with the farm project. Construction provides another opportunity to place emphasis upon *form* expression and for expression on a fairly large scale. The making of tiny objects out of paper does not give the child the experience his big muscles need. The big project, however, supplies

the kind of construction which will have a real value to the child and will supply a real purpose to his efforts.

Construction with large blocks, big boxes, and boards, therefore, furnishes a splendid problem for young children. The child likes a store which he can stand in and use, not a little store constructed out of a shoe box. The first-grader likes a church that has pews where he can sit down and sing, not a church twelve inches high that he can put on a table and look at. He likes a library with real books in it. Many projects of this type are practical for the first grade, but the store will be taken as an illustration of a large-size construction project.

THE STORE PROJECT

Purpose of the Project. The aim of the store project is to give the pupils an opportunity to work on large-size construction and to provide an experience which will make them feel that they are actually a part of the environment they are creating. The illustration on page 43 shows nicely the possibilities of a large-scale project. The children really become parts of an exercise of this kind.

The store and similar large-size projects may be used to interest the children in community life, in the source of materials, and in the dependence of the city upon cooperative activity. The store naturally follows the farm project as a place to sell the produce of the farm. Something of the great industry (both domestic and commercial) of preparing foods for the table and of their transportation and marketing may be studied. (Suggestions will be found in the department on Community Life, p. 417.)

Constructing the Store. The making of the store calls for moving around and uses the big muscles. It calls forth the ingenuity of the child. It makes him resourceful. He hunts for boxes, boards, and materials that can be used in his building. Orange crates or wooden shipping boxes are often em-

Courtesy the University Laboratory Schools, University of Chicago

The store project is here shown completed. Note that the children are actually a part of this project

ployed to form the framework for the store. It is made large enough so that the children can go inside easily and will have room for counters, shelves, and other things typical of a real store. After the form of the store is complete and is made solid so that it will not fall down on the children, the outer surface should be covered with brown wrapping paper. This offers many excellent opportunities for the use of art expression. The paper may be made to look like brickwork or clapboards by painting lines upon it. Here we have real need for the teaching of lettering for store signs. These letters for the signs may be cut from paper and pasted on the side of the store. If there is a counter in the store, play oilcloth will be needed to cover it. This makes a good problem in all-over design.

Drawing Topics. Children will like to draw trucks that deliver the groceries. They will want to draw people so that they can make scenes of people buying and selling. The scenes of people going to the store will call for drawing trees, buildings, streets, and other familiar objects and scenes. In studying the store problem, children will visit a real store.

When they come back to school they will draw what they saw. Here we have memory drawing.

Articles for the Store. Vegetables, fruit, eggs, etc., will be needed for the store. These may be made of clay and painted with water colors. Canned goods will be needed, and play cans may be made from construction paper rolled into cylinders. These may be painted in gay colors, bringing in problems in design, color, and lettering. Lettering problems may be developed in connection with price cards and posters to advertise certain goods. Many ideas will be suggested by the children which will offer no end of possibilities for art application. A few suggestions for handwork and design problems are given below. (See also Plate 16, p. 47.)

1. Paper napkins with stick-printed (see p. 46) designs. Use paper toweling.
2. Curtains with stick-printed or cut paper designs.
3. Handkerchiefs with corner design. Use manila drawing paper.
4. Collar and cuff boxes with rhythmic repeat designs along edge. Use colored construction paper and crayon and make the box by folding paper.
5. Sweaters and dresses cut out of crêpe paper. These may be hung on hangers made of cardboard.
6. Very simple dolls made of bags tied at the top to make a head. Crêpe paper or tissue paper dresses are simple to make. The dolls may be placed in boxes made of heavier paper.
7. Paper weights made of clay, painted.
8. Dishes made of clay.
9. Toys made of clay, beaver-board, or wood.

Making Letters for the Store Project. Large letters are needed for the store front. Children may cut wide letters out of colored paper which will be in contrast to the background. Let us suppose that the store front is covered with gray wrapping paper. The children may cut a wide strip out of black paper for a background and make the letters out of light manila, yellow, or orange paper. This will make a fine contrast. Let us suppose that the name they have chosen for their store is "Johnson Brothers' Store." Plate 15 shows

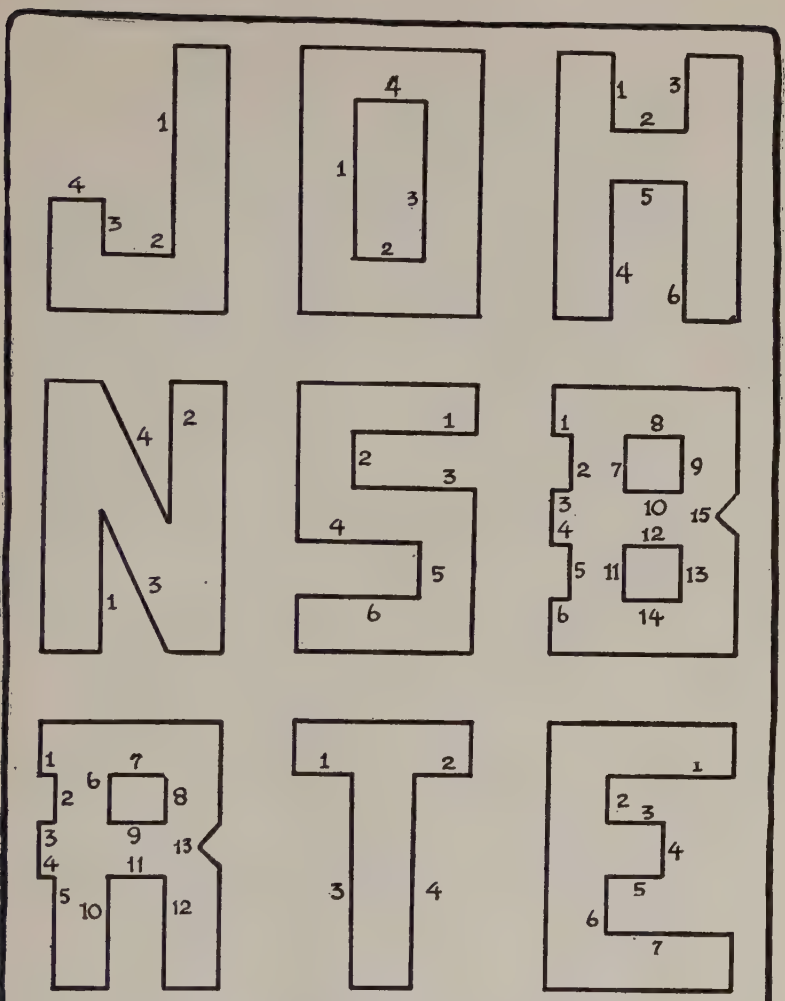

Draw and then cut lines in order indicated by the numbers. Must not be made more difficult for Grade 1
Lettering for Store Sign

PLATE 15

one simple way to cut the letters. Only nine different letters are needed for this sign: J O H N S B R T E. The simplest way for children to cut letters is to draw them first. They can estimate how tall the letters should be by placing a trial letter on the background strip for the sign. When the height and size of the letters have been decided upon, blank strips of paper should be cut by one committee of children. These strips should be passed to every child in the room to give each pupil experience in cutting letters. The children may try to cut the letters themselves, but they will soon see that they need some instruction. The teacher can then dictate the method of cutting the letters as shown in Plate 15.

Letters for the labels cannot be made by paper-cutting, for they will be too small. Large blunt pencils may be used for making letters for small labels. Crayons may be used for larger letters.

In the departments on Industrial Studies, Volume III, and on Community Life, in this volume, other large-size construction projects are discussed.

STICK-PRINTING AND DESIGN

We have an opportunity to teach simple design in the making of articles needed for the village store. There are paper napkins which can be decorated with a little stick-printed border. Corner designs for handkerchiefs may be made with stick-prints. The boxes and cans may be decorated with all-over designs or simple borders.

Stick-print sets may be bought from any school art-supply house. The sets come with small round, square, and triangular-shaped sticks and printing pads. It is not necessary, however, to buy regular sets of stick-prints. They may be made from corks or soft pieces of wood. Felt may be used for pads and ordinary ink or water color may be used to moisten the pads. Have you watched children make rhythmic borders with pencil or crayon? Every child likes to repeat little marks so that they make a continuous border and in doing so he expresses the principle of repetition. Stick-print-

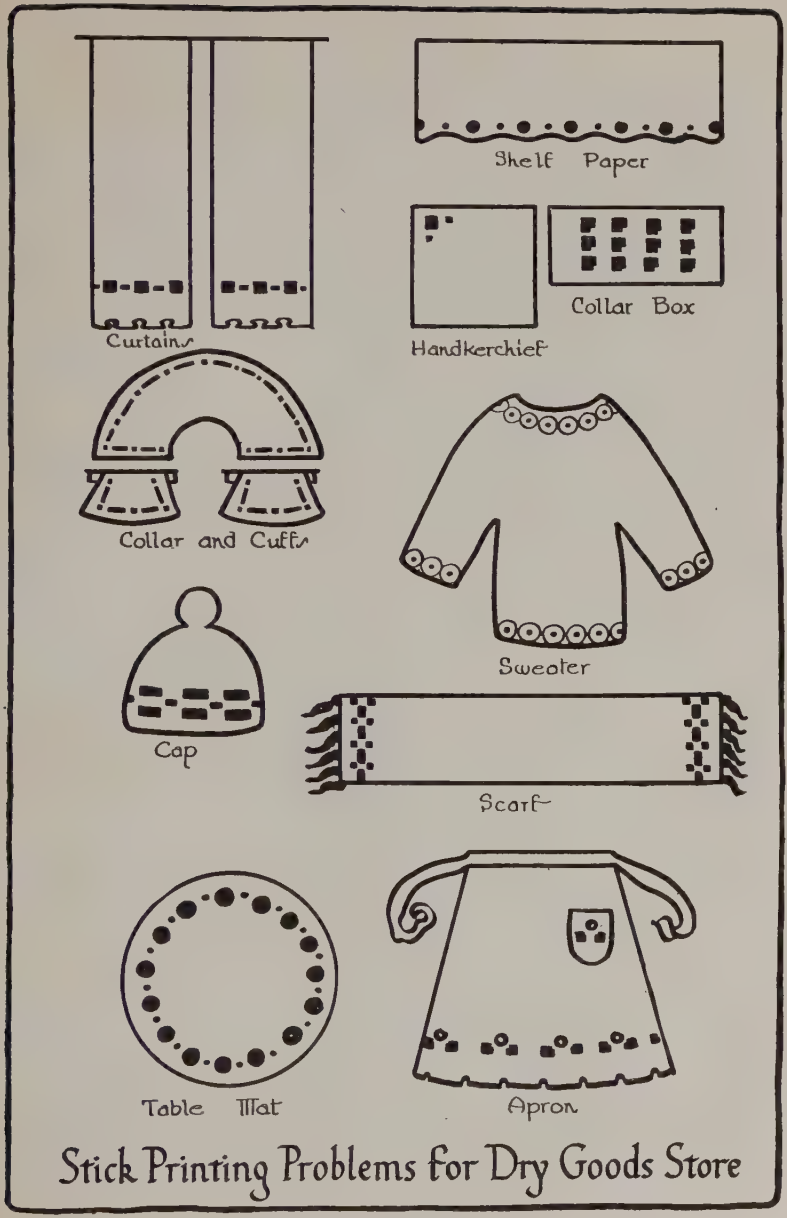

Curtains
Shelf Paper
Handkerchief
Collar Box
Collar and Cuffs
Sweater
Cap
Scarf
Table Mat
Apron
Stick Printing Problems for Dry Goods Store

PLATE 16

ing is very fascinating to children and they like to use the sticks in making borders. The page of illustrations, Plate 16, page 47, shows some problems in which this desire has been gratified.

Simple Arrangement. One way to teach simple design with stick-prints is to let the children use one block first. Let us say that each child has a piece of wood that makes a colored circle when printed. Some will make borders, printing the circles so that they touch each other. Some child will arrange the circles so that they go in two's or in three's with spaces in between the groups. Others will try to print the circles equal distances apart in a border.

Next we can give them sticks that print circles of different sizes. They will alternate large and small circles and discover different ways of arranging them. We can introduce two colors after they have become familiar with the process. Some child will discover that he can print a large circle with blue and put a small orange circle in the middle of the blue one or partially covering the blue one. If they should put the small circle on the right side of the big one each time, they will get the feeling for accent in a border. After they have tried to make designs with one shape, such as the circle, we can let them use several different shapes together. The designs will gradually become more complicated as the pupils become familiar with the method and its possibilities.

Art Principles. The principles of repetition, alternation, and emphasis should be thoroughly understood by the teacher before beginning work in design. These principles are discussed under the topic of design in the following chapters on the work in Grades II and III. The simple idea of repetition should be explained to the child as an introduction to the big field of decorative arrangement and composition. He should be shown that this idea is dominant in most of the things we see about us. Trees or telephone poles in a row, picket fences, railroad ties, windows in a building, patterns in dress goods, wall paper, and rugs, printing on a page, buttons on a coat, and hundreds of other examples of repetition may be pointed

Kemp-Welch

Engraved especially for THE CLASSROOM TEACHER *by the Art Extension Society of New York*

PLATE 17—Behind the Plow

out by the children. Such problems stimulate the children's observation, and help to interest them in the things which they encounter in their daily life.

APPRECIATION—PICTURE STUDY

Three pictures which relate directly to rural life have been chosen for study in the first grade. For this reason they should be introduced to the child early in the year. The teacher should allow the children ample opportunity to see the pictures and to talk about them before the real appreciation lesson begins. This study should be undertaken in a very simple way so as to correlate with the farm project and to serve as a means of directing the children's interest to the beauty and charm of country life.

It would seem advisable to present the pictures two or three different times so that a separate study may be made of various qualities which they contain. First they may be studied for the story quality and subject-matter interest appropriate to little children. Later the pictures may be studied in connection with color problems, and again to point out some features of arrangement which may bother the children in their own work. Finally they may be viewed as examples of fine drawing, color, and arrangement. The names of the artists may be given but the children should not be asked to remember them.

After all it is not a picture as an adult sees it which interests a child, but the things in the picture which relate to his living world. When shown a picture of an Indian chasing a buffalo a small child struck the picture and exclaimed, "I don't like that man." A picture is a very real thing to children and we should select pictures for school use which not only please the children but which will help them in their school experiences as well. Many fine pictures tell a good story and with these a foundation may be built for later art appreciation.

BEHIND THE PLOW, by Kemp-Welch (1869–). The children will enjoy telling what they see in the picture.

Because of their study of the farm, they will at once be interested in the farmer plowing.

The teacher may ask the children, "Have you ever seen a farmer dressed like this?" This will give them a splendid opportunity to tell about farmers they have seen.

Children living near the Great Lakes or the ocean will know that the birds are sea gulls. Those who have never seen gulls will ask about the birds and the teacher can tell about them, how they follow ships far out to sea, how they crowd around the boat at mealtime when pieces of food are thrown overboard, how in many places there are laws against shooting them.

Subject-matter interest. Children are quick to note all details in a picture and may exclaim, "I see the ocean in the distance. It often is just as blue as that," or "This farm must be near a lake. I see it over in the distance. The farmer's children will have a good place to swim." The teacher should encourage the children to talk about the picture and to feel that they are helping in its interpretation.

She may call their attention to the horses in the picture with the question, "If you did not see the horses working, would you know that they were work horses?" Some child will tell about riding horses he has seen, and how they differ from these. The children will be interested in this topic because of their drawing of animals in their class exercises.

Color. A special lesson should be given in which attention is directed to the colors in the picture. The children should be asked to distinguish the different colors. The artist has used colors which go well together. Some simple explanation should be made about using colors in class problems so the child will realize that there are practical things to be learned about color.

The children will notice that there is a difference in color where the ground has been plowed. If another picture of the same farmer plowing were made a little later on, all the ground would be that color. Why does the farmer have to plow the ground? What will he do after he gets it all plowed?

Engraved especially for THE CLASSROOM TEACHER *by the Art Extension Society of New York*

Constant Troyon

PLATE 18—Going to Market

Correlation. Questions of this kind offer an opportunity to bring in the subject of nature study and agriculture—the tilling of the soil, and the raising of crops for food. Here the topic of food may be enlarged upon. The child should know something of the dependence of mankind upon the farmer and his work in supplying people in the cities and elsewhere with the necessities of life.

GOING TO MARKET, by Constant Troyon (1810–1865). This picture has been chosen because the interest of the children in farm animals has already been awakened. They will like this picture.

Subject-matter interest. Some child may say that he knows that this scene is not in the middle of the day for it's rather dark and there are shadows. Some child may say it looks like evening. Another who has been up early in the morning, will say that this looks like morning.

The teacher may ask, "When do farmers go to market, in the morning or in the evening?"

The children will notice the sheep. Some child will be interested in the dog or in the farmer and his wife and comments similar to the following may be expected: "I can hear the dog bark." "He is trying to play with the cow." "The mother is riding on a donkey." "I think the father is riding on a horse."

Some child may point out, "They are just passing another farmer's house. You can see no lights. Maybe they have already left for the market."

Color. The children may be asked to name the colors in the picture. The teacher may then explain how the most important things in the picture have been made more clear and distinct than the background so that they will be noticed easily. The children will need this kind of information in their own drawing problems. The story of the picture may be continued so as to include a great variety of interests. The interests aroused in the animals may be transferred to the drawing lesson and the various projects of the grade.

AT THE WATERING TROUGH, by Adolphe Dagnan-Bouveret

(1852–). This is a very fascinating picture of rural life, which children always like. They all like horses. They like to watch them drink. We can call attention to the fact that all animals need a great deal of water. Children often forget to give their dogs and cats water to drink. We can remind them always to have a pan of water where their pets can find it and to change it often so that it will be fresh. A lesson on kindness to animals may be given very appropriately in this connection.

Appreciation of the horse. We can lead the discussion to all of the things horses do for us and how they have helped man in his efforts to make this a better world in which to live. Without the horse man would have had a very hard time doing his work. We can tell the children how the farmer takes care of his horses, how he raises their food, how he hitches them up, and how he cares for them so that they will be well and strong.

Some children probably already love horses. We may add to this love an admiration for the wonderful beauty of the horse both in line and form, and for his dignity and great power.

Arrangement. The picture as reproduced in half-tone offers a fine opportunity to teach the child something of the importance of light and dark in a painting. The white horse balances the white of the man's shirt, and the black horse standing in a prominent place in the picture, but not exactly in the center, gives emphasis to the arrangement. Children, of course, are not greatly interested in arrangement in the first grade, but they should realize that pictures are definitely planned and that they will also need plans for the picture they make.

Purpose of Selection. The paintings here described emphasize typical farm activities and while they show animals, they have not been selected for that reason primarily. In the second grade, however, the pictures have been chosen to continue the interest in animals and to aid directly in the animal drawing and modeling in connection with the projects.

Dagnan-Bouveret *Plates by the Art Extension Society, Westport, Conn.*

PLATE 19—At the Watering Trough

SUITABLE PICTURES FOR GRADE I. Any of the following pictures may be included in first-grade appreciation lessons:

*** Children of the Shell—Murillo
** Behind the Plow—Kemp-Welch
** Going to Market—Troyon
** The Pastry Eaters—Murillo
* Feeding Her Birds—Millet
* Shoeing the Bay Mare—Landseer
* Child with Cherries—Russell
* Miss Bowles—Reynolds
* The Belated Kid—Hunt
* Bringing Home the New Born Calf—Millet
* Baby Stuart—Van Dyck
* Primary School in Brittany—Geoffroy

Small color prints ($2\frac{1}{2}$x$3\frac{1}{2}$) can be obtained of all of these subjects for appreciation lessons if desired. These prints cost only a few cents apiece and enable the pupils to make illustrated books for picture study, which become real treasures.

The pictures starred twice may be secured from the Art Extension Society, Westport, Conn. The pictures starred once may be secured from the Brown-Robertson Company, Inc., 8 E. 49th St., New York, N. Y. The picture starred three times may be secured from both companies. The prints may also be secured from The Colonial Art Company, 1336-1338 W. First St., Oklahoma City, Okla. These firms also supply loose-leaf picture-study sheets of these subjects.

VARYING THE COURSE. Throughout the work of the primary grades there is ample opportunity to introduce problems relating to food, clothing, shelter, and many of the so-called industrial art topics (see Industrial Studies, Vol. III).

The work here planned is meant for the average first grade where creative project work and free expression are dominant features. Where this type of teaching is not established, where the children may be older, or in large groups, the teacher may give more directions. Dictated problems planned for the second grade may be adapted to first-grade work.

CHAPTER THREE

ART—GRADE TWO

THE art work outlined for the second grade has been developed largely in connection with various projects suited to this grade, and pupil interests have been centered around these projects. The identity of the subject of art, however, is here given more emphasis than is the case in the first grade, and is given more prominence from grade to grade throughout the course.

The projects for the different grades have been suggested as devices for vitalizing the art exercises and giving to them a real purpose and interest. As many projects as possible should be introduced in each grade according to the time allotted to art in the school program. If the projects discussed do not fit in with the materials and supplies of a certain school and it is impossible to secure the necessary items involved, the teacher should modify the suggestions to meet her own peculiar circumstance.

Seasonal topics are discussed in a general way in Chapter V. Teachers should adapt these suggestions to their own needs at appropriate times of the year and use them to modify and enrich the grade topics in every way possible.

There should be an effective correlation of art work with all other subjects of the curriculum. Many topics from history, English, geography, or science may be used to give practical content and value to art exercises and problems, as well as to contribute vitally to these subjects.

Suggested Themes for Art Work. Any theme being studied in the various subjects of the grade may become the basis of a project. The following topics are suggested as possibilities for art work:

Home Life and Community Life, the life of the Indians, of the Eskimos (see Community Life, Vol. V, for all these

topics), Desert Life, or other similar topics; geographic landscapes in drawing or on the sand table, showing hills or mountains, lakes, rivers, fjords, and islands; important topics from children's literature such as Peter Rabbit, Hansel and Gretel, The Tin Soldier, The House in the Wood, Snow White and Rose Red, The Little Green Elf's Christmas, The Doll Under the Briar Rosebush, Little Black Sambo, and Mother Goose Rhymes, all of which, as well as many other stories, will be found in the department on Primary Literature (Vol. III); The Three Bears (Vol. II, p. 126); The First Umbrella (Vol. II, p. 254); and industrial topics, such as food, clothing, and shelter, which are discussed in the department on Industrial Studies (Vol. III, Chaps. II, III, and IV).

All of these topics and many others furnish vivid experiences and background for pictorial expression or construction.

Systematic Study. With very young children there is satisfaction in mere activity such as scrubbing, marking with colored crayons, rolling clay, or tearing paper. The interest with these children is in the activity and not in a product resulting from a definite plan. The work of the first grade has introduced the pupils to purposeful activity, and they have learned that needs can be met and requirements satisfied by systematic plan and procedure.

The child should realize by the time he has reached the second grade that knowledge for any project can be acquired by adding bit by bit to what he already has acquired, and that by study and systematic investigation he may secure the information and skill to master his problems as they arise.

The different aspects of the subject-matter of art should be presented in response to a definite need or purpose calling for it, and it should furnish opportunity for the child to experiment and to demonstrate his originality and resourcefulness in every way possible. Much encouragement and little criticism from the teacher are especially desirable in this connection in the second grade.

Developing Originality. While freedom of expression and originality comprise the most cherished objectives of the art periods, they should not result in haphazard effort and meaningless invention.

> To teach a child by example how to draw a few things so he may know the way in which others do it is to give him a developed medium for expressing his own ideas, which is a more potent impetus to individuality than can come when he is compelled to find his own symbols for expression. Those which he invents or which are suggested to him by the objects he is drawing, if left without enrichment from other sources seldom develop beyond a meager set of crude conventions which he repeats over and again. He is not brought early into contact with those graphic interpretations which the race has worked out.
>
> There would appear to be abundant and appropriate scope for the exercise of early original activity in employing an accepted and rich medium of expression in an original way. In any line the surest path to one's own originality is often through familiarity with the good ways of several other personalities.
>
> In the teaching of design also, a subject which should exert a direct influence in developing good taste, a strong plea is made in many courses in the arts for fostering originality on the part of primary children by protecting them from opportunities for imitation. This article, however, does not hesitate to recommend familiarity with well-selected examples of design, and opportunity to imitate them as a direct influence in developing originality, and as the best introduction to the study and practice of design. It is probably true that familiarity with and discrimination of what is excellent is a much more valuable asset than ability to produce what did not exist before if it is not good enough to be in itself a reason why it should exist at all.[1]

Instruction, A Guiding Process. The instinct of imitation is strong in childhood and should be an aid to free expression. Unaided endeavor on the part of children often results in chaos, while careful suggestion and example of the teacher

[1]Walter Sargent, "Fine and Industrial Art," *Elementary School Journal*, Vol. X, p. 111.

may lead the child through imitation to produce that which is excellent. Freedom and originality do not necessarily produce good art. Good drawing, design, and construction are not the chance product of an untrained mind. They imply a clear understanding of certain basic processes. In the limited time apportioned to art work in the elementary schools, little can be accomplished for the average child if he is left wholly to his own devices. It is the function of instruction to guide, encourage, and direct the immature minds of childhood.

A study of child psychology is very essential in the development of effective classroom methods. The methods presented in this course are the results of such studies. Observation for a number of years of the progress made by children through the use of a definite plan of guidance emphasizes the value of system in developing originality and freedom of expression.

THE CIRCUS PROJECT

THE topic of animals naturally appeals to children and for this reason is given emphasis in this grade. An interest in animals aroused in the first grade through the development of the farm project will carry over to the second grade so that a suggestion from the teacher is all that is necessary to bring from the children the desire to work out the circus project or the Noah's ark project, suggested as special exercises for Grade II. With a definite incentive before the children the different art activities will go forward with great enthusiasm and spirit.

VIVID IMPRESSIONS FOR ART WORK. The circus is an event of lasting and vivid sensations to the fortunate youngsters who can view the mysteries of its sawdust and tented areas. One of the most important things in the circus is the parade. Children who cannot afford to see the circus can see the parade because it is free. Children who can go to the circus get an added thrill from seeing the parade. To stand and

Children enjoyed this parade, the result of their own efforts

watch that procession of interesting animals, people, and wagons, to hear the calliope, to imagine what would happen if the lions, tigers, and wild cats got loose, to smell the popcorn in the popcorn wagon which is always near a parade—is not all this one of the supreme experiences of childhood?

The art teacher who wants to choose a fine moment for modeling can do no better than to have the clay in good condition and ask the children if they care to make the parade.

Courtesy the University Laboratory Schools, The University of Chicago

A real circus tent large enough for the children to enter was a feature of this interesting project

Some will want to model the whole parade—animals, band, and all. It never ceases to surprise one to see the expressiveness that the little children can get out of a lump of clay. When the children make clay horses and elephants for the circus they like to put yarn and cloth riders on them. Or the riders may be modeled and painted with enamelac or water color. Let us encourage them to make this circus as real as they can. If a yarn tassel will help, let us welcome the yarn even though it mixes our mediums and may not be according to the best canons of art. After all are we trying to make a work of art? No, we are trying to give little children a chance to express themselves and to model the band, the circus parade, or some other aspect of circus life.

Sometimes they like to cut the animals out of beaver board or soft wood and paint them (as shown on p. 97), or toy animals may be brought from home as suggested on page 96. Wagons and automobiles may be made from empty cardboard boxes with milk-bottle tops for wheels. A circular carton may be used for the calliope or hippopotamus tank. The boys like to make wooden wagons, hammering them together with a real hammer and nails. In these wooden wagons they like to put polar bears and tigers which they have modeled out of clay and painted.

All children like to tell what they saw at the circus and they like to try to draw the animals, clowns, and carts.

A Realistic Circus. The ideal circus tent is one large enough for the children to get into, one large enough so that they can have a ring in the center and make the animals perform. The larger the animals, the better. A most successful project planned on a large scale is pictured on page 59. Here we have the ensemble of a two-ring circus with an audience of second-grade youngsters who planned it. Note the trapeze, the band, the ticket office, the wagons for wild animals, and the two-ring performances. It is all very realistic even to the actual sawdust floor. What if this does muss the room up a little? It is real life for the children! The tent was made from a large piece of canvas loaned for the

purpose by one of the fathers. It was tied to hooks in the wall and was supported in the center by poles.

The circus parade is shown at the top of page 59. Note the background of painted buildings which were also designed by the children. Details of the band are shown on page 90.

The figures in the band were all painted in gay colors and produce a most festive appearance, which is very characteristic of the splendor of the circus parade, and is in keeping with the spirit of "the magic ring" of the circus.

Playing circus furnishes wonderful opportunities for dramatization and stories. Children who are reluctant to talk will become greatly interested in the circus. They like to express themselves in drawing, too. They like to draw the picture of some certain performance, then stand up before the others and show it and tell about it.

In construction, the circus project called forth the best efforts of all the children. One little boy who had never shown any great interest in construction became so intensely interested in making a circus wagon that he came as early as he was permitted to come and stayed as late as he could. Some nights he took it home. When he had finished it he had people sitting on top. In the hands of one man was a bunch of balloons about as large as big marbles. The teacher asked, "Where did you get those balloons?" He answered, "I took a big one, cut it up, blew these up, and my father helped me tie the string around so the air would stay in. I used some old wooden knitting needles for the sticks."

One man held a drum which the boy had made out of a little circular cardboard box. The wagon was covered with designs of gold and silver paper he had taken off candy. The windows in the wagon were made of paper that looks like glass. He said he got this from a groceryman. It came from a cooky box. His result was a masterpiece. He had planned for it. He had gone to see the groceryman, consulted his father, asked his fellow classmates and teacher their opinions. The circus wagon had called forth all of this. Having done this thing well, he proceeded to be interested in other con-

struction problems. Handwork and drawing that touch an interest as vital as that of the circus, bring results and a love of art that will carry on to the appreciation of really fine things later in life.

SUBJECT-MATTER

The subject-matter of art as organized in this course of study—Drawing and Illustration, Design, Color, Construction, Appreciation, and the subdivisions of these topics—forms the real background of the work from the second grade on. Emphasis should be placed upon the effective fulfillment of real needs through the art activities listed under these headings.

Beginning the Work for the Second Grade. The teacher may allow the children to start the modeling or construction of animals or the making of other features for the circus on the first day of school, but it would seem more logical to begin the art work of the grade with drawing the representation of animals and things seen at the circus. The work in drawing will assist the pupils in securing information which will help them later in their project work. For this reason special methods for drawing animals are given as an introduction to the art work for the grade.

DRAWING AND ILLUSTRATION

Drawing is a form of language with primary children. Expression by means of pencil or crayon becomes a matter of course with pupils in the second grade, and this free expression and spontaneity should be encouraged. In the second grade, however, the children show a desire for more truth in their representation and wish for greater knowledge to assist them in their graphic representation of objects. The teacher should satisfy this desire by presenting simple methods for drawing various objects, and by giving simple instructions for the placing and arrangement of figures and things in an illustration or pictorial composition.

The ability in drawing already gained in the first grade may be added to and considerably extended by offering the pupil instruction which will assist him in acquiring the knowledge he desires for his immediate use. The series of drawing lessons given in this grade aim not only to lay a foundation for graphic expression, but also to develop observation and visual impressions together with the ability to record these impressions skillfully. Illustrative drawing develops observation, imagination, the power of free expression of ideas, visualization, and memory.

The Drawing of Animals. The first lesson in drawing should consist in the representation of things of real interest to the children. If the circus project has been discussed with the pupils they will be eager to draw animals, particularly circus animals. The horse, elephant, and camel are perhaps the most typical of circus animals.

The method of drawing each of these animals by progressive steps is given on the following pages. These instructions will prove very helpful to teachers whether they have had much drawing experience or not. The teacher should study the lines illustrated very carefully and then draw them as directed for each animal. She should practice the steps many times so that she can go to the board and demonstrate the drawing before the class.

The teacher draws the first step on the board. The children draw it on their papers. The teacher draws the second step. The children draw it after her. As she draws each step the teacher explains it as a part of the drawing. The explanation is as important as what she draws.

At the beginning of each lesson the teacher should show a finished drawing of the animal. This should be placed where the children can see it constantly while working. Seeing the finished drawing will make them realize the relation of the different lines they are making to the completed whole. The boundary lines of the animal are the most significant and usually should be drawn first. The other lines may then be added step by step. In this way the teacher may dictate the

1

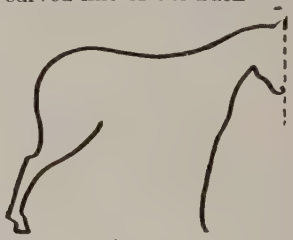
Draw two lines lightly with your pencil. Notice that they slant down in the same direction. Be sure to get them the right distance apart

2

Put a dot straight above the beginning of the front line. Draw the ear in front of this dot and from the ear draw the long curved line of the back

3

Now let us finish the back leg. Notice that it is rather large at the top

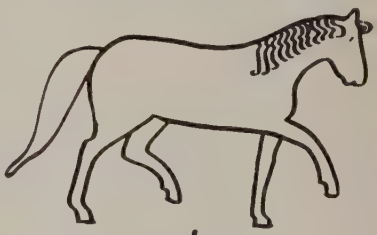


4

Let us make a line for the under part of the head. Notice that it ends straight under the ear

5

Draw the front line of the horse's head. Finish the front leg. Draw the tail, mane, eye, and stomach line. This gives a standing horse



6

To make a walking horse, one of the forelegs and one of the rear legs must be extended. Draw the tail, mane, and stomach line

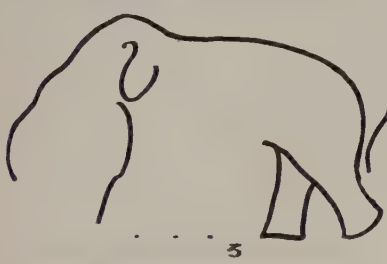
Steps in Drawing a Horse

1

Draw a curved line for the head. Notice that it starts with a curve, has a bump in the middle, and ends with a curve

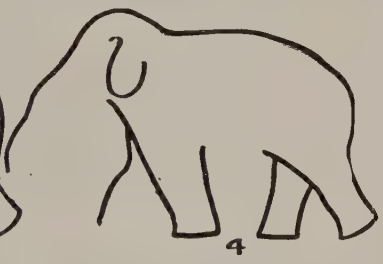
2

Now let us make the line of the back and put in the ear. Notice carefully where the ear begins



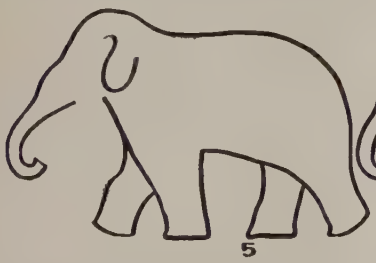
3

Let us make the back line of the rear leg, then the front line of the forward leg. Finish the back leg and draw the next to the back leg



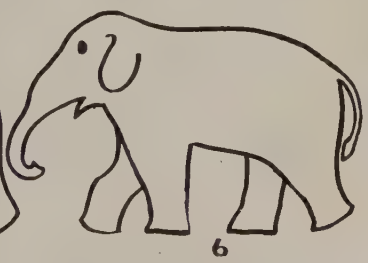
4

Let us draw the other front leg. Notice that the lines of this leg slant forward and the lines of the next to the back leg backward



5

Finish the forward leg. Draw the under line for the trunk and a line for the stomach



6

Now draw the mouth, the tail, and put in the eye. The eye should be very small

Steps in Drawing an Elephant

drawing of different animals line for line with most satisfactory results. Each time the children make the drawing they will have more confidence. It will look freer and the work will proceed with less effort until it is memorized as a part of the graphic vocabulary.

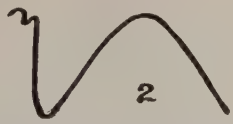
Guided drawing. When the drawing of an animal is dictated for the first time it should proceed very slowly. The child should show the first step to the teacher and have her criticism before he draws the second step. He should show the second step before he draws the third step. The other steps may be drawn without showing each to the teacher, but the first two steps are most important, for on them all others are based. It is better to proceed very slowly so that the child will succeed the first time he tries. We must not think, however, that because the child has succeeded in drawing the animal correctly the first time, he knows how to draw it. He will have to draw it many times, especially if the subject is the horse. The teacher should not hurry the children as they draw the same animal over and over but she will notice that each time they draw the animal they do it more quickly.

In order that the drawing of the horse may not become monotonous, the teacher should at times have the pupils draw different riders on the horses—one day a cowboy or clown, one day a farmer, one day a girl with a fashionable riding habit, one day a little boy or girl, as explained on page 69. She should dictate the drawing of different backgrounds. She should let the pupils model horses, and they may also make paper-cuttings of horses. Different stories which have horses in them may be illustrated. "The Princess of the Glass Hill" and "Cinderella" are good examples.

When teaching the drawing of any animal, one position should be memorized before others are attempted. For example, our plate shows the walking horse. After this has been learned so that the child can draw it quickly from memory the teacher should teach the children how to draw the running horse. After they have learned these two positions

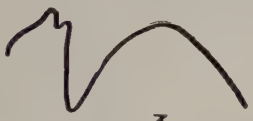
1

Draw a line for the back. Notice that it looks like a hill



2

Now we go almost straight up until we are even with the back. Make two ears. Notice how little they are

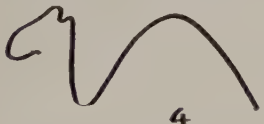


3

Draw a line for the front of the head. The head is bigger than you think

5

Draw the long, curved line for the neck. It ends almost under the first line drawn. Now draw the line for the stomach



4

Now finish the head, making a little curve for the mouth

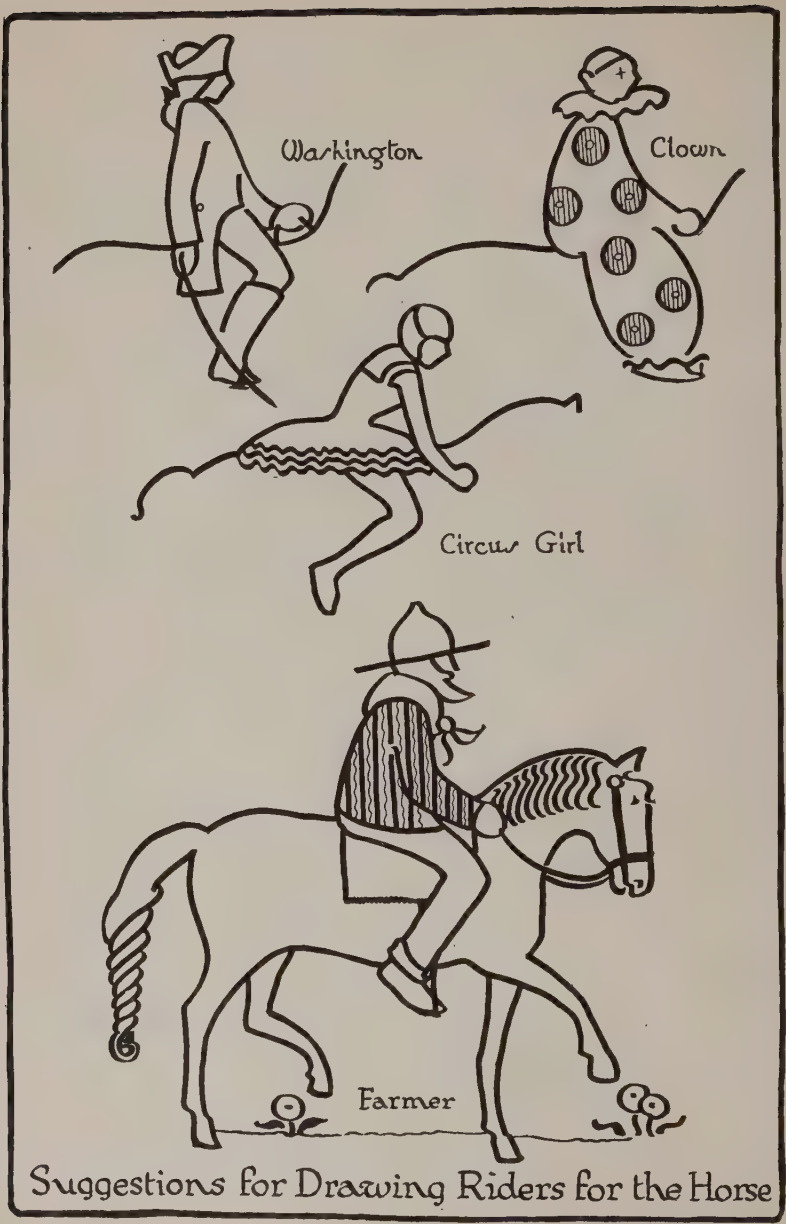
6

Let us draw the front and back legs. Draw the outside lines first, including the tail. A short straight line and a curve make the feet

7

Draw the other legs. Be sure to make them thin and long. The camel is a very awkward animal

Steps in Drawing a Camel



Suggestions for Drawing Riders for the Horse

PLATE 23

they may learn other positions. While some of the children in the class are learning to draw the horse walking and running, other children will have learned many positions.

In teaching the drawing of animals, the instructor should see that some of the drawing is done in color and that each lesson gives the child a chance for some originality, if only in the placement of a man on the horse or the decorations on the camel, or in the background or the size of the animal in proportion to other things in the picture. The wise teacher can keep animal drawing from being monotonous. However, repeating the form many times is essential in mastering the drawing of it.

Standard to be Attained in Animal Drawing. Here someone asks, "What is mastering?" and we must be careful. We cannot keep the child drawing the horse until it is perfect, for a little child does not do things perfectly. If we aim too high we may spend so much time on this phase of the work that there is no time left for all the free expression the little seven-year-old needs. The following standard seems advisable for the walking horse:

1. Is the horse's head rather slender at the mouth? (Little children naturally draw it very fat.)
2. Do his legs get a little thinner just above his feet and then get larger near the body?
3. Are the first and third legs even on your paper?
4. Are the second and fourth legs even on your paper?
5. Be sure that his neck is not too thin.
6. Can you draw an animal from memory in four minutes that can be recognized as a horse?

Horseback Riders. In practicing the drawing of the horse interest may be kept up by permitting the children to place riders on their horses. Learning how to draw several typical riders is also a great help to the children in illustration work.

Plate 23 shows as riders, George Washington, a clown, a circus girl, and a farmer. The children's tendency in drawing the riders is to draw the leg of the person straight down with

no bend at the knee. These illustrations will help them correct this mistake. Another difficulty which they have is in getting the size of the man in proportion to the horse. Usually they make the man too large. This plate will help them in this respect. The painting by Frederic Remington, "The Long Horn Cattle Sign," has been chosen for study in this grade because it shows horseback riders. The picture should be presented and discussed in connection with this problem.

After drawing riders for the horse, it is very easy to draw riders for the elephant and camel. Children are quick to learn that their dictated drawing may be used with slight modification in a great many ways. They gain confidence and greater insight into the work, and freedom of expression manifests itself in hundreds of ways which might be lost if the pupils' attention were absorbed in working out for themselves every detail of the drawing. They now add to the picture roads, trees, fences, costumes, castles, hills, and all sorts of things with the greatest of freedom.

Free Expression After Dictated Lessons. Plate 24, page 72, shows free spontaneous work of children after they had learned the steps in drawing the horse. These illustrations were selected from three thousand drawings of second-grade children in the city of Duluth, Minn. None of the children had attempted to draw horses before the dictated lesson.

Plate 25 pictures free spontaneous drawing of children after they had learned the steps in drawing the horse, elephant, and camel. These drawings are original compositions made by second-grade children in the Elementary School of The University of Chicago. No two of these pictures are alike although all children had the same dictated lessons previously. We have found that the more directed work children can be given, the more original they become.

Plate 26, page 76, shows guided drawing of second-grade children. There is some opportunity to impress upon the pupils the fact that objects in the background or at a distance are smaller, and that prominence may be given to objects by

making them larger. Children like to draw on yellow paper. It gives a yellow glow to the whole picture. These pictures were drawn on 12x18-inch yellow construction paper.

Composition. The lesson was planned as a definite step in teaching composition. The children were asked to make one object large so as to give the picture emphasis. They were encouraged either to make the animal of a darker value or to put a heavy black line around it. In this way they learn something of *values* as an element in illustration.

It is not wise to dwell upon technical matters of art in the lower grades, but when an opportunity presents itself to make a forceful suggestion involving an important art consideration this should be done, because it opens the way for more technical discussions of art principles in the upper grades.

Plate 31, page 85, shows paper-cutting for illustration by second-grade children after the dictated lessons in drawing the animals and riders. It will be observed that there is no loss of freedom or originality in the more formal rendering which always results from paper-cutting problems.

Varying the Themes. It is wise to vary the drawing themes occasionally so that the interest may be stimulated by new contacts. The Hallowe'en, Thanksgiving, or Christmas topics provide profitable and fascinating digressions from the regular grade exercises. The illustration of fairy tales, or poems from the classes in literature, opens new avenues for originality and creative drawing. The correlation of drawing, design, and construction with the prescribed grade topics should not be carried too far. Children often develop other interests and when this is the case it would be well to follow these interests for a time. Correlation for correlation's sake has very little value in any program.

The children in this grade like to draw the same things that the first-graders do, but they like to put in more detail. The Santa Claus in Plate 27, page 77, is much like the one shown in the first grade with these exceptions: The whiskers have small lines to make them more real and little lines are used to represent fur.

PLATE 24. Free spontaneous drawings of children in the first grade after direct teaching

PLATE 25. Free expression of second-grade children. The children had learned the steps in drawing the horse, elephant, and camel in previous lessons.

FIGURE-DRAWING. On this same plate we have two figures simplified by student-teachers to show the kind of figure-drawing desired for the second grade. The more the teacher practices on such drawing exercises as these before presenting the lesson to the class the better results she will obtain with the children. Note the simple direct lines of the figures. A special lesson should be planned to develop this kind of rendering.

These figures may be drawn very easily. The head may be started with a circle which may be slightly modified to represent the face. Two lines may be drawn to the bottom of the skirt or smock, the arms may be put in, and other details may be added to obtain the effect desired.

The drawing of the human figure presents many problems all the way through the grades and even in the art school. In the beginning children use a "shema" or sort of symbol to represent figures. This symbol doesn't necessarily possess any of the attributes of the figure itself. It is merely a sign standing for that figure. In the first grade methods of drawing are given which enable the children to eliminate some of the crudeness from their symbol figures. The drawing for Grade I described in the preceding chapter gives them some sense of the proportion of the human figure, so by the second grade we can attempt definite action and hope that the proportion learned in Grade I will carry over into the action figure-drawing.

Action-drawing. Children like to draw people in action and in many different positions. Ability to draw the human figure in many positions is needed in some of the work for geography, history, and literature, as well as for the regular art topics being illustrated.

Action studies may be developed by first drawing the stick figure to secure the desired pose or movement, and then filling it in with thought of shape and proportion.

Plates 28 and 29, pages 80, 81, show the stick figures before they are dressed and afterwards. It is not enough to teach the child how to draw stick figures to represent different

actions, but we must also help him to dress these figures. It is comparatively easy to draw stick figures, but the real difficulty comes in attempting to clothe them, and in making them look like real figures. The suggestions given on these plates are only a few of the many actions which children will want to learn. It is hoped that the plates will be of value in showing how to express the character of people and what they are doing. A man who is running appears quite different from a man who is walking. A boy kicking a football must be drawn in a different way from a boy skating. The stick figure helps us to show many kinds of action easily in our drawing. Its use gives a simple and effective method of teaching figure-drawing in the primary grades and is a help in all grades in representing the human figure in various actions and positions.

After the action studies have been made, the child should be shown how to make the figures look like real people by making the body wider, by giving more character to the details, by securing more accuracy of contour and proportions, and by clothing the figures. Memory drawing of figures in action is fine practice and should become a part of each exercise in figure-drawing.

The drawing of faces. The faces of the figures should be kept simple, but the circle head suggested in the first grade is too crude. Plates 29 and 30, pages 81, 83, show different ways of drawing faces and different ways of dressing the figures to represent children from many lands. The latter plate will be helpful in making paper dolls and dolls' dresses. The drawing of faces, side view, is shown in many of the illustrations for this grade.

If we watch the little child as he draws, we will see him try to draw faces for his figures. He usually makes the mouth so large that the whole face looks ugly and any other merit his illustration may have is lost because the ugly face overshadows everything else in the picture. A few simple rules will help. Let us say that the eyes, nose, and mouth shall be sketched in black with no blue coloring in the eyes, or red on

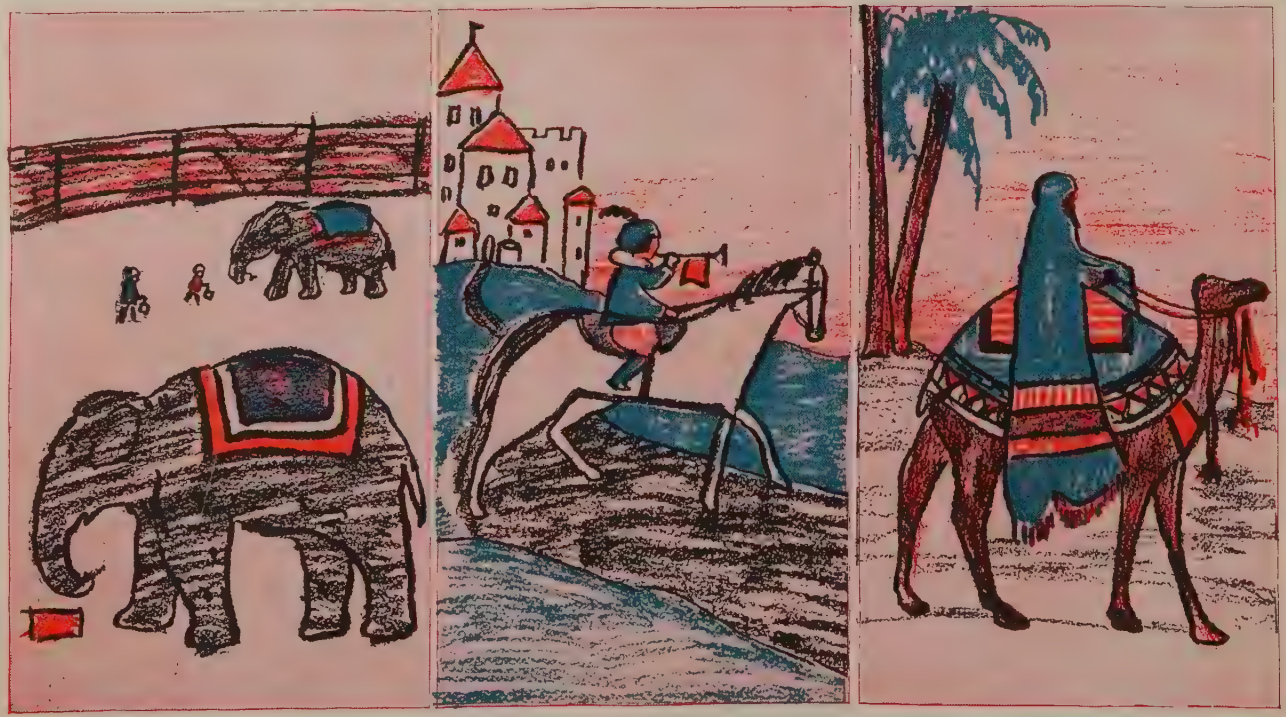


PLATE 26. Guided drawing of children. One object in the picture was made large to give emphasis, and tinted paper was used to give a glow to the picture

PLATE 27. These simplified figure sketches were made by student-teachers preparatory to giving a figure lesson in the second grade. Note the difference in drawing Santa Claus as compared to the drawings shown in Grades I and III

the lips. The simple line drawing of the face can be done fairly well by the little child, but he cannot succeed in putting color in the eyes and lips. The skin may be made light orange with a little darker orange on the cheeks. If the child can be shown some effective simple drawing of faces it will be of help to him in avoiding too complicated details. Pictures of figures may be cut from magazines and used for seat work as copies or for coloring.

Object-Drawing. Children are always interested in drawing things associated with their out-of-door activities, their home- and school-life. There are many other less familiar objects which children like to use in the illustration of stories such as castles, windmills, canoes, airships, and all kinds of constructed objects. The teacher can well afford to devote several lessons to the drawing of such objects. The drawing lesson should be presented by reducing the objects to as few lines as possible so that the child will gain power to represent the subject quickly and well. After the objects have been reduced to the prominent lines, the pupils should be asked to draw them from memory. This is good practice in any kind of drawing. Toys are good objects for children to draw because the lines in them are usually simple. Children do not appreciate subtle lines. Wooden animals which have been made with a saw necessarily have the little lines omitted and therefore furnish good objects for beginning lessons in drawing.

Flowers. Flower-drawing is always a delight to children. They like to attempt the representation of the brilliant colors. The children are not interested in drawing flower specimens as such. A rose is a rose to them, not a rose that is different from one next to it in the shape of its leaf or the bend of its stem. The following plan for flower-drawing in the second grade is recommended. Let us say that the flower the children are to paint or draw is the tulip. The teacher may hold up the tulip for the children to see, and also pass several around the class so that each child may handle them. She may ask the children what color it is, discuss its shape, have

them notice where the leaves come out of the stem, and then ask the children to draw a tulip quickly. A number of children may bring their drawings to the front of the room. These may be criticized by the class. Then the teacher may dictate the method of drawing a tulip, line for line. Other typical flowers may be studied in the same way. When the children have drawn five or six typical flowers they will have learned enough about plants to help them with the nature-study work of this grade.

Trees. Tree-drawing is excellent practice for children and it aids them in the illustration work for history, geography, and other school subjects. We can make the illustration work better and save time by devoting several lessons to teaching the drawing of trees in a formal way. Studies should be made of typical trees and the simplified steps in drawing them should be presented to the children.

Everything taught in the second grade should have outstanding characteristics, and the drawing lesson should feature these characteristics. Subtle differences are not appreciated by second-grade pupils. The tree studies may be used not only in the illustration work, but in the Arbor Day projects and in the design and poster problems.

Easel Painting. The work in easel painting suggested in the preceding chapter may be continued in the second grade.

The painting on a larger scale made possible by use of the easel method offers a welcome variation from the regular problems and exercises in drawing and design. An occasional painting lesson at the easel will prove valuable in developing freedom and directness which will react in all the art work. It gives the children a chance to express themselves in a forceful and bold manner that is not always possible through the seat-work activities.

DESIGN—DECORATIVE ARRANGEMENT

The Scope of Design. In this course of study the term "design" is used in the broad sense, as implied by the words

PLATE 28. Stick figures help a great deal in drawing figures in action

PLATE 29. Showing how the figures look when filled out and clothed

decorative arrangement. In this sense we might speak of the design for a building, the design for a room, or the design for a rug. Webster's Dictionary defines the word *design* as follows:

> Design (verb), to produce a plan for anything. Design (noun), arrangement of details. A piece of decorative art considered as to its form, colors, etc. Also, a preliminary sketch of something to be executed, as of a picture; a plan.

The word *design* will be used, therefore, as applying to decorative arrangement in its many forms.

Paper-Cutting. The topic of paper-cutting may properly be listed under the heading of design because in paper-cutting emphasis is centered upon placing and arrangement more than upon actual representation. Everything in the picture is greatly simplified, of course, and this process is a very elemental kind of conventionalization.

Paper-cutting results in a composition which is practically a poster. It is a problem with emphasis upon simplified form, color, and arrangement. It is decorative composition rather than pictorial composition.

Several crayon drawings of the horse, elephant, and camel are shown on pages 72, 73, and 76. Plate 31, page 85, shows paper-cutting of these same subjects. The composition at the top of the page represents a prince riding to his home. Perhaps you can see the results of the direct teaching given in connection with horseback riders.

In presenting these lessons the teacher should point out to the pupils the three values, black, white, and gray, and explain the use of values in art work. She should guide them in selecting a paper of light value for the sky, a paper of nearly middle value for the ground or grass, and a dark value for the horse, tree, or other objects in the composition.

In cutting the paper for these topics it was found to be a good plan to cut the objects made up of different colors as follows: For the rider on the horse, sheets of white, black, and red paper were placed one on top of another, and these were all cut together. Then the black one was cut in pieces for the

PLATE 30. Suggestions for drawing faces and clothing on figures to represent children of different nations

black parts. The red one was cut in pieces for the red parts and the white one was used for the main figure upon which the other colors were pasted. In cutting a white castle with red roofs, the red paper was placed on top of the white and two castles were cut out. Then from the red one the roofs were cut and these red pieces pasted on the white castle.

In this work it is important to have good paste if children are expected to do neat work. The following plan was used in pasting the picture together. A sheet of paper of the color desired for the sky was selected. Upon this a piece for the grass was pasted. The castle, trees, and horse were placed in different ways on the paper until the child decided which he liked best. Then they were pasted as you see them, and the same plan was followed with the elephant and camel.

This work is valuable for several reasons. First, by giving children a new medium with which to express themselves we have increased their interest. Second, the result will resemble a poster in effect because of the elimination of details. The result is a great contrast to the crayon drawing and greatly pleases the children. There is an excellent opportunity in this problem to make the pupil realize the importance of good spacing and arrangement in a composition for artistic results.

Pictures may be shown which illustrate good spacing and arrangement. All of the pictures listed for study under the topic of appreciation have been chosen because of good composition as well as for other excellent art qualities. The painting by Remington, "The Long Horn Cattle Sign," and the painting by Claus, "The Herd in Sunshine," reproduced for study with Grade II should be very helpful in this respect.

On Plate 32, page 87, are shown paper-cuttings of Black Sambo and The Pied Piper of Hamelin. These have been reproduced to show two-value and three-value studies, and to show a very simple method contrasted with a more complicated method of paper-cutting. The simplest method in paper-cutting is, of course, to silhouette the forms. Here we have white on black. Often we have black on white. In the

PLATE 31. Original paper-cutting by second-grade children following the dictated lessons in drawing the animals and their riders

more elaborate illustration of Black Sambo we have gray, black, and white. Instead of having Black Sambo all in one piece, he has been made to look more real by cutting a separate piece for his hair, coat, shoes, and the handle of his umbrella. The tiger has been made more real by adding narrow black lines cut from strips of black paper.

The Pied Piper illustration and the simpler Black Sambo illustration are quick ways of teaching composition by means of paper-cutting. They furnish fine problems for seat work. These were made in seat-work time in a public school by one division of the room, while the rest of the children in the room were being taught reading.

Paper-Tearing. It is interesting to do some work in school which carries over to work which can be done at home or in summer camps or on picnics. Often we do not have scissors to use. Interesting pictures can be made with scraps of wrapping paper and colored pieces torn from magazines with no utensils except one's fingers. If a child is given some of this work in school he is more apt to do it when he has a little leisure out of school. Anything we can do to encourage work outside of school is well worth while, for the child who is interested enough to work outside of class time is the one who forges ahead.

Then, too, there are certain subjects which lend themselves to tearing better than cutting. For example, the contour of trees, snowy roofs of houses, clouds, the sky line, mountains, and certain animals, such as sheep, buffalo, dogs, cats, etc., may be given a more realistic appearance by tearing than by cutting.

An interesting design problem may be developed by folding square pieces of paper and tearing along the folded edge. The square should be folded over three times. If either of the folded edges is torn, a square with perforated pattern will result, while tearing along the cut edge produces a symmetrical unit with variegated edges. Quite complicated design units may be made by tearing on both a folded edge and on the cut edge of the paper.

PLATE 32. Original paper-cutting showing the simple silhouette of white upon black, and the more complicated effect produced by using three values, black, white, and gray

A Lesson in Design. "How many of you have seen Indian baskets? Some of you have. Would you like to see one which I brought today? I also have some pictures of Indian baskets and blankets. Some of these show the kind of designs Indians make. Some of the designs mean good luck, according to the belief of the Indians. See how they made a tree design. This one was made with squared sides and simplified shape because the weave of the basket naturally gives the little square lines to the design. How would you like to make some tree designs? I'll show you one way. Then you can make original ones."

An excellent opportunity presents itself here to interest the pupils in the rich symbolic ornament of the American Indian, and to acquaint them with the kind of art produced by the early inhabitants of this country. Emphasis should be placed upon the value of art in modern life as well as in the life of the Indian. Even very young children should gain some idea of the important part art has played in the lives of all people. After the pupils have become interested in the kind of design Indians used in their art work, they will be very anxious to try to make similar designs for their own use.

Each child should be given a piece of manila paper, 9x12 inches, and some pieces of blue paper. If the blue paper is small the pieces may be placed upon one another to form four layers, or if fairly large, the piece may be folded in the middle both ways so as to give four surfaces for cutting. On the top sheet of the paper a single tree similar to those seen in Indian basket designs should be drawn. The teacher may then show the children how to cut the paper so as to form four trees at one cutting. By tracing the tree upon other pieces of folded paper they can cut more trees until enough have been produced for the making of borders and patterns.

Art principles. The teacher should appreciate the importance of the principles of repetition and alternation and understand their application to the field of decorative arrangement. It is advisable to explain in a simple way these arrangements so that second-grade pupils will realize that

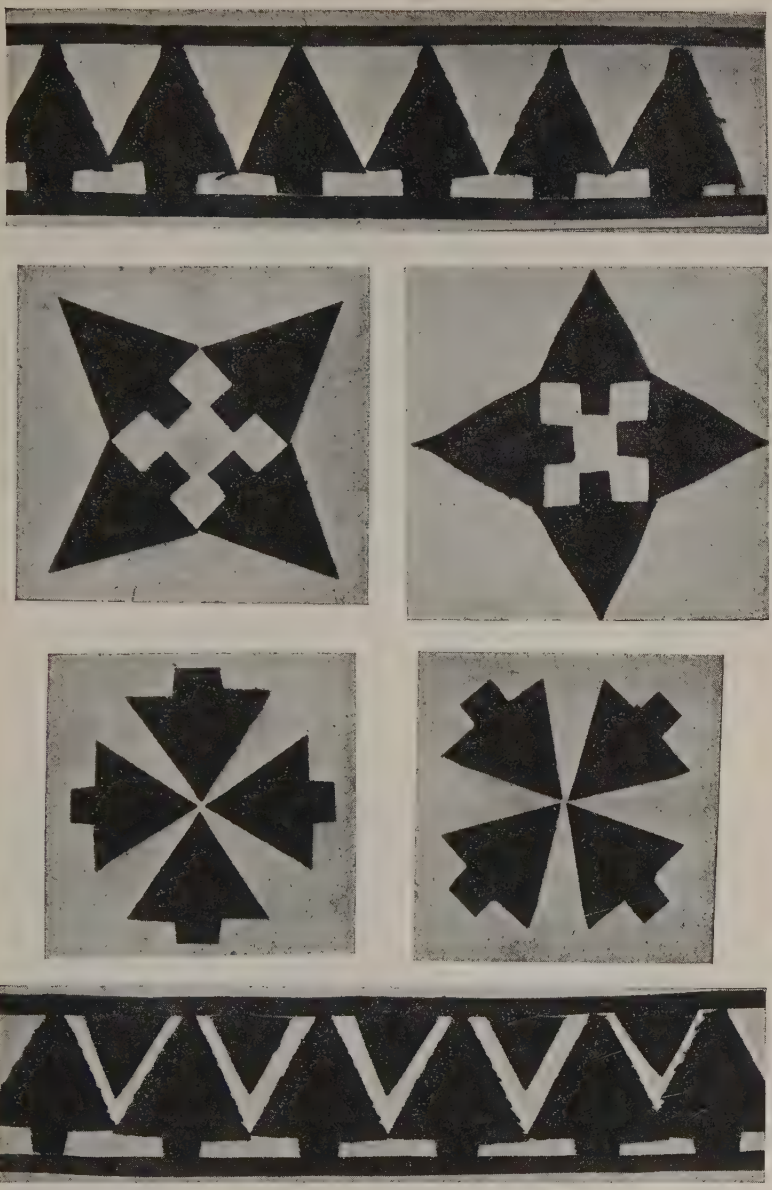


PLATE 33. Tree designs. Square designs and borders produced by using simplified tree forms were cut out of blue paper and pasted upon cream-colored paper

they are using design principles in their work which will be explained more fully to them later as they progress in their art studies in the school. Further discussion of art principles is given under the topic of design in the following chapter.

Decorative units and borders. The teacher may have the children gather around her desk and show them how to arrange the paper-tree units in different ways. She may show them how to make a border by simple *repetition* of the units, or by placing one tree right side up, another wrong side up, the next right side up, and so on. This latter arrangement is called *alternation* and it is used frequently by designers to secure variety and interest in borders and patterns. The children will be anxious to try for themselves and should return to their desks and arrange the trees to form units and borders.

After the children have made borders by the simple process of repetition and alternation the teacher should suggest making a strip for the top and bottom to hold the units together and to give a more finished effect. The children will be delighted to see the many different results they can get by placing the strip in different positions. They notice that when they fill up most of the light background with darker trees the result carries as dark. They notice that the resulting

Courtesy of Elizabeth Hazeltine

Details of modeled figures for the circus band

Figures for the Noah's ark project. Block modeling is appropriate for second-grade work

pattern can hardly be recognized as a tree and that more complex and interesting designs can be formed by placing several units together according to a certain plan.

For example, squares may be made and lines drawn across these from the corners or from the middle of each side. Plans will then be formed which will enable the pupils to try different arrangements in the square. The trees may be placed upon the cross lines or the diagonal lines giving different effects in each case. The units may be further modified by having the trees point in or point out. The children should be encouraged to experiment and produce as many different arrangements as possible. Plate 33, page 9, shows designs within a square and borders resulting from this method. These were made by second-grade children.

Different colored paper may be used so as to give more varied effects and more pleasing quality in the finished pattern. After the children have considerable experience in arranging the tree forms on their desks for borders and decorative units under the teacher's guidance, they should

be shown how to paste the colored trees upon a paper of lighter color to produce in permanent form the designs they have planned with the movable pieces.

The borders and units may be used on boxes, portfolios, curtains, and for other things in connection with various grade projects.

Design exercises. Some educators believe that every design made in the elementary school should be created for a special use and definitely applied to some object to justify the effort in making it. This theory is an excellent one, of course, but if the child is allowed to make designs only for some practical use he will receive very little actual practice in design creation. The child derives great pleasure from designing for the sake of the designs produced, even if they are not in every case applied to something in a practical sense. Many exercises in design are recommended purely for the sake of the training afforded in placing and arrangement, and as a means of giving the child some introduction to the elemental principles of order. The lessons in design may be used to teach good taste and discrimination and to lay a foundation for good arrangement in the more advanced work of the school.

A number of problems in design should be planned to develop design motifs and to apply these in some definite way to usable objects. The best designs from several exercises may be used for this purpose. This will provide an incentive for pupils to experiment and to refine their designs.

Stick-Printing. The problem of stick-printing begun in the first grade (see p. 46) should be continued in the second grade. More extensive designs should be attempted and a greater variety of colors should be used. Stick-printing affords an excellent method of developing decorative patterns for all the primary grades.

Lettering. Large letters will be needed for circus signs and posters. The instructions given for the first grade (see p. 44) will apply here. Simple block letters may be cut from colored paper and mounted upon backgrounds of contrasting color, of paper or cloth. Plate 47, page 137, shown in the

following chapter on Grade III presents letters with more refinement than the letters made in first grade. The children should be given some drill in making letters with crayons as well as the exercises in paper-cutting of letters. The making of letters with paints or ink is not advised for this grade.

COLOR

Color Attainments for the Second Grade. By the time the children enter the second grade they should know the six primary colors, and two values of each color. They should possess, in addition, considerable elementary information about the use of colors in their work.

In the second grade the study of color may emphasize the combinations of one color with neutrals (black, white, and gray), and the complementary color groups.

One color and a neutral is a color scheme that the children can understand. An example which children living in large cities see constantly is the yellow cab. Many book covers around the room show applications of one color and a neutral.

Complementary Colors. Children in the second grade should be taught how to produce green by mixing blue and yellow, how to produce orange by mixing red and yellow, and how to produce violet by mixing red and blue. They are interested in learning that black, white, and gray are called neutrals and they like to learn the word "complementary" when they are making a book cover in which the teacher has limited them to orange, blue, black, gray, and white. It interests them to have the teacher draw on the board the color circle containing the six standard colors and draw a line between blue and orange, red and green, and yellow and violet. The teacher should explain that these colors are very unlike, that they are really opposite each other in the color circle, and opposite each other in color effects. That is, they complement each other and for that reason the pairs of color on opposite sides of the color circle are called complementary colors. Plate 48, opposite page 138, shows a color circle.

The children are interested when the teacher shows them advertisements which are very typically made of orange and blue or other complementary color schemes. The teacher should not show them pictures in which the colors are not decided, for the colors must be pronounced if the children are to recognize and become familiar with the complementary groupings.

Color Recognition. Many children will bring colored advertisements and pictures to school. A cardboard should be hung up so they can place on it these color schemes. Some will bring little samples of dress goods or colored pictures of sweaters or dresses cut from trade catalogs, which show the colors being studied. Children will report names of places where they have seen the different color schemes they have studied. Some will tell of billboards, rugs, dresses, wall paper, theater scenery and costumes, colored lighting effects at the movie, sunsets, and many other color combinations they have noticed.

When the red and blue color scheme is being studied the teacher should explain that red and blue-green look better together than red and the strongest green. She should show the children how to make blue-green by mixing blue and green together. They can remember this complementary color scheme because the colors are seen so frequently at Christmas time. We also have the violet and yellow complementary colors. Many children know of kinds of flowers in which one variety will be violet and another yellow. The spring violets are examples of flowers of this kind. There are wild sweet peas of violet color and others that are of a deep cream color, which is really a pale yellow. There are yellow and violet pansies, yellow and violet iris. Perhaps some of these flowers can be arranged in a neutral vase, a yellow vase, or a violet vase. They may be arranged in the art class as studies in complementary colors.

Color and Design. When the children have really learned the characteristics of the different color groupings described, they should be shown how to use these colors together in all

their art work. Here the topic of color merges into that of design. Design deals with the arrangement of lines, forms, and colors in producing works of art. In the exercises of design, paper-cutting, and construction, such as book covers and similar problems, the color schemes should be limited to the color studies being emphasized for the grade, but in illustration exercises the children should not be restricted in the use of color. Freedom of expression is desired in illustration work and the children should have the free use of all the colors without restrictions or limitations which may cramp their spontaneity of representation.

CONSTRUCTION

THREE-DIMENSIONAL WORK. For this grade the activities in construction are involved largely in developing the circus, already described, and the Noah's ark projects. Considerable emphasis has thus been placed upon the making of animals.

MODELING. Modeling in clay and plasticine is one of the most important subjects of the school program. It has been placed as a topic under the heading of construction for convenience in classifying subject-matter. It is free expression of the finest kind, but it is free expression of *form* rather than of line or color.

Emphasis must be placed upon *form* in modeling, and the children must become familiar with the true shape of animals and objects. There is nothing to take the place of modeling for teaching *form* and the consciousness of three dimensions.

Many instructors dodge the opportunity of teaching form by means of clay modeling because as a subject it is hard to handle with the many children we find in the average classroom. One reason modeling may seem difficult is because the lessons are so infrequent that the excitement of the children tends to make the lesson a disorderly one. If a clay-modeling lesson is given in an orderly way every day for a week, the problem will be solved. The children will model as freely as

they draw and it will seem perfectly natural to them. The children should always be given an opportunity to experiment with clay before being taught to model a certain shape. The teacher should model for and with the children. The example of the teacher inspires them to do better work. (See also the department on Industrial Studies, Vol. III, p. 552, for the study of clay and clay-modeling.)

THE NOAH'S ARK PROJECT

THE Noah's ark project is very closely related to the circus project in that it is largely a problem of animal construction. It might precede the circus project and contribute many of the animals for it. If the circus is developed first, as suggested for this course, toy animals may be brought from home in the beginning, giving opportunity for the children's constructive interests to be centered upon the tent, wagons, and other features. Later in the year the making of animals may become the chief activity, and there is no better way to keep up the interest than through the Noah's ark project.

One of the finest problems in animal-modeling the authors have ever seen was developed in the Saturday morning class at the Art Institute of Chicago, under the direction of Elizabeth Hazeltine. The children in this class were not talented. They were children who wanted a chance to model on Saturdays. Miss Hazeltine realized that it would not interest them nearly so much just to model separate animals without any one idea in mind as it would to use the animals as parts of one big plan. They decided on Noah's ark. This called for many different kinds of animals. Children volunteered to model different animals in order to do their part in making the result one fine whole. Each individual animal was modeled with the thought of the relation it bore to the whole.

On page 91 is shown the variety of animal forms which may be studied and developed through this problem. While the work was done in the juvenile department of an art school,

For the circus parade these units were developed in wood by second-graders

the Art Institute of Chicago, under the direction of one trained in the art of modeling, it is a fine example of what may be done under ordinary conditions with a little special attention to the topic of modeling. Children in the elementary school with few advantages sometimes show real genius in modeling and with a little help and encouragement can do remarkably fine work.

Modeling Animals. In working out the animals for Noah's ark the children should be helped with the method of modeling. Animals that have thin legs, like the camel and horse, may be modeled in the following way. Instead of trying to make the legs hold together by putting in sticks and

The second-grade children who made these cardboard animals for the Noah's Ark project had learned to draw them earlier in the grade

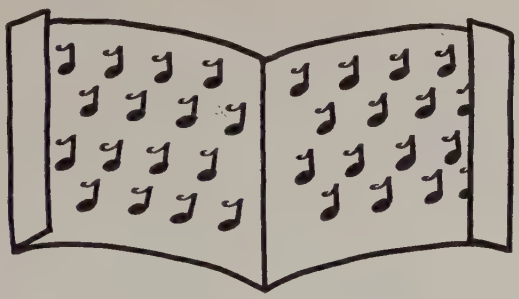
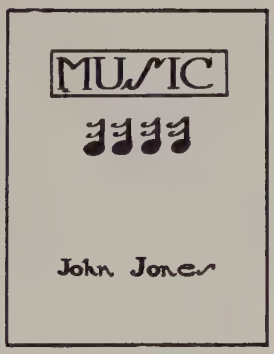
wire, an almost impossible task with small children, block animals may be made. The block animals are modeled as realistically as possible but the space between the legs is not hollowed out completely. The legs are modeled in a low relief effect. Note the modeling of the horse shown on page 12, and of the people and animals shown on page 91. By coloring the block between the animal's legs, the legs show off enough to make the animal look real. This method is a splendid one for paper-weight animals, too, for it makes them heavy. The elephant has such large legs that he may be modeled without a block. His legs can easily be made solid enough to hold him up without difficulty.

In this problem the ark may also be modeled out of clay. When the clay is dry very fine effects may be obtained by painting the animals in opaque water colors. An important part of the real joy in carrying out this theme is the painting of the animals. This is really a bigger point than one might think. Imagine how much can be gained in a circus project by painting in bright colors the "trimming" on the animals and the riders.

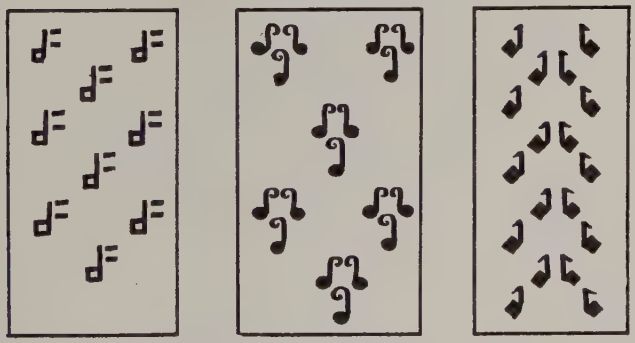
Plasticine is good for modeling because it does not get hard and crack, but clay is recommended for this problem because it dries and gives a fine surface for painting.

Wood and Cardboard Animals. Children of all ages delight in making things. After they have drawn and modeled animals they will be happy to try to construct them in wood or cardboard. (See p. 97 for examples.) The teacher should have plenty of pictures for the children to look at when they wish to cut these animals. They should be given lessons which aim to develop an appreciation of the nature of the animals. Their attention should be called to how the elephant lumbers along, how the camel moves like a ship across the desert, how the old farm work-horse plods along, how dignified the Russian wolfhound, the aristocrat of dogs, looks. Children will enjoy the making of animals much more when they know something about the animals.

The next great aid in this work as well as in the drawing of



Arrangement of outside cover



Suggestions for inside of cover

How to Make a Music Folder

PLATE 34

animals is to show the children how to simplify them so that they are reduced to forms which can be cut. They must eliminate the little fine parts which cannot be cut in wood or heavy cardboard even by an expert, and especially not by them with their simple tools and inexperienced hands. This problem may be developed further in the making of toys for Christmas gifts. The animals may be painted with the school paints and shellacked or varnished, or they may be painted in the workshop with house paints.

MUSIC BOOKS AND PORTFOLIOS

In the second grade the music teacher often wishes the children to have a folder in which to clip songs, the words of which may be printed in the printshop, if the school possesses one, or by hand. In such a problem it is necessary to plan something which will be reasonably successful, because a book which the child is to carry every day for a half year needs to be durable and neat. The suggestions shown on Plate 34, page 99, will be useful in developing problems of this kind. The size and manner of folding should be dictated. An exercise in lettering will be necessary for printing the title "MUSIC" and the pupil's name. Plate 47, page 137, in the following chapter on Grade III suggests simple letters suitable for this work. Crayons as a medium for decoration and lettering should be used because the second-graders cannot make painted designs or letters neat enough for this purpose. Music teachers find that paper-cut letters are not practical for the booklet because the letters tear off after several weeks' use. The way this cover is folded over at the edge makes it stronger and very practical because no paste is used in making it.

In grouping the notes in different ways to form borders and patterns the children gain experience in making designs. They realize that attractive designs can be made by using as a motif something that is related to the use of the object being made. This is exactly the idea the teacher should carry over

Frederic Remington

Engraved especially for THE CLASSROOM TEACHER *by the Art Extension Society of New York*
Courtesy, P. F. Collier & Son Co.

PLATE 35—The Long Horn Cattle Sign

to the children from the lesson on Indian design, previously discussed.

The tree design motif developed in an earlier design lesson (see p. 88) may be used to decorate a folder or stiff-back portfolio for use with other subjects. Directions for making portfolios and pamphlets will also be found in the department on Industrial Studies, Volume III, page 546.

APPRECIATION—PICTURE STUDY

The pictures suggested for study in this grade have been chosen not only because of their beauty but because of their appropriateness as reference material and subject-matter for discussions in connection with the grade projects. They should serve to stimulate interest in the study of animals and afford a means of developing greater observation of beauty in specific forms of life.

The pictures may be presented for study several times in connection with various lessons and problems where correlation can be developed. First they might be studied from the standpoint of representation in connection with lessons in the drawing of figures, animals, and horseback riders. Next they might be studied from the standpoint of color, or simple placing and arrangement. Finally, after the pupils have made many attempts to make pictures in their school work, these paintings should be shown and discussed as examples of fine technique. In this way pupils may not only learn to enjoy beauty but should gain a great deal of information incidental to their own art problems and exercises.

The picture-study suggestions given in the preceding chapter on Grade I may be helpful in the work of Grade II. A review of the previous year's work in picture study will be valuable as an introduction to the work of any grade. The discussion of each picture is given not as a dictated lesson but merely as a suggestion for busy teachers. Each teacher should develop her picture-study lesson according to the interests and needs of the pupils at the time. Whatever plan

or method the teacher uses, she should encourage the pupils to talk about the picture and to tell what they see in it before any attempt is made to discuss it from the art standpoint.

The Long Horn Cattle Sign, by Frederic Remington (1861–1909). In classes where the circus project has been used the children have tried to draw the horse in many positions. They have collected magazine pictures. The teacher has dictated the method of drawing the horse. The pupils appreciate horse-drawing because of their efforts, some of which have been unsuccessful. There is great excitement when they come in and see this picture in the schoolroom.

Subject-matter interest. When the children's excitement over the picture has subsided, they will have a chance to look at it more closely. They may be asked to write stories about the Indian talking to the cowboy. The teacher may tell them how pictures of this kind record for us certain phases of American life and history that we really know little about. She can tell them something of the climate in the Southwest and correlate their interests with geography or history and with out-of-door activities of the great West. She may call their attention to the fact that the original of this picture was painted in oil, and ask them if they can see where the artist's brush strokes have left marks. They will be very much interested in this. She may tell them how some artists make big brush strokes, some such small ones that the picture looks smooth; how pictures are made more interesting to us because different artists paint them differently. Some artists like to use bright colors. This artist, Frederic Remington, knew how to use bright colors skillfully.

Arrangement and color effects. At another lesson the teacher may explain how the artist has arranged the figures in the picture so as to give prominence to the ranchman, how the other animals and the Indian are made smaller to give the effect of being farther away. She can explain how the bright colors give the effect of brilliant sunlight and warmth to the picture. Later she may compare this picture with "The Herd in Sunshine" which gives a feeling of coolness because of the

Emil Claus

Engraved especially for THE CLASSROOM TEACHER *by the Art Extension Society of New York*

PLATE 36—The Herd in Sunshine

less brilliant colors used to paint the trees and the shadows under the trees.

The children will be interested to know that Frederic Remington was an American and that he is ranked as one of the great painters of horses.

THE HERD IN SUNSHINE, by Emil Claus (1781–1840). The picture should be placed for several days in a conspicuous part of the room. The children will make many remarks about it. One may say, "I saw cows like those in the country last summer on my grandfather's farm." Another may say, "I know what the black and white cows are called. They are Holsteins."

Since the children have become interested in the picture, we can well afford to take a period to study it. Then after a class period has been used for this purpose the picture can be placed on view again. The children will see more in it now because of the teacher's suggestions.

Sunlight and shadow. The artist, Emil Claus, painted this picture to represent the beauty of sunlight and shadow. The cows are incidental. They are just something over which the sunlight filters, but the children will be more interested in the cows than in the effect of sunlight. In Grade III two beautiful sunlight pictures are suggested for study, so it is well to introduce the pupils to this interesting subject. We may tell them how artists like to paint sunlight on buildings, sunlight on trees, on flowers, on children, on animals. They like to paint the sunlight and shadow and are very happy to find a scene like this. The artist may not have cared much about drawing cows but one day when he saw this herd of cows coming down the road the beauty of the sunlight shining through the trees on the cows attracted his attention, so he painted it.

Ask the children to half close their eyes as they look at this picture and note how strongly the pattern of sunlight and shadow appears in the foreground.

The teacher may call attention to the fact that the cows look contented. They should be contented for they have

pleasant pastures, shady trees, a nice clean place to live, and plenty of clean, fresh water to drink.

Simplicity of details. One child may say, "I see two children in the picture." The teacher may call attention to the fact that the artist has not painted eyes, nose, and mouth on the children, for at this distance we would not see them. Perhaps she has been trying to get the children to draw people without putting in eyes, nose, and mouth. It will interest them to see that a great artist has left out these details. The teacher may explain that this is one reason why a painting by an artist is more beautiful than a photograph. The artist does not tire us by trying to make us see everything at once. He wants us to see the sunlight on these cows as they walk contentedly down the road.

The man who painted this picture lived in Belgium, across the ocean. He painted it one hundred years ago. That is not very long ago, though, for a painting. Many great paintings are much older than this.

THE ARTIST'S DAUGHTER, by Wilhelm von Kaulbach (1805–1874). The picture should be placed in a conspicuous part of the room for several days. The children will look at it repeatedly. They will notice the cherries. They will discover that there is a drawing of a clown on the paper in front of the child and a clown doll on the floor. Some children may remark that the cherries look very real, that the clown doll looks very large. They may make up stories about the clown doll and tell them in the story-telling period. Some child may say, "Next time I make a circus picture I'll make a ruffle around the clown's neck. I saw it in the circus but I didn't remember it until I saw this picture." Children will probably remark about the length of the child's dress.

The instructor has an opportunity to use this picture to teach composition. It is always difficult to get children to make a composition containing one person drawn on a large scale. Their tendency is to put in many people and to scatter them all over the paper. They can appreciate the drawing of the little girl, for the lines are very simple. The teacher can

Von Kaulbach *Plates by the Art Extension Society, Westport, Conn.*

PLATE 37—The Artist's Daughter

tell them how simplicity and fine arrangement are more important than complexity in making pictures.

Subject-matter. This picture is called a portrait. The teacher should explain that some painters are called landscape artists because they paint out-of-door pictures, and that others are called portrait artists because they paint pictures of people.

Emil Claus painted the picture just studied, "The Herd in Sunshine," because he saw something that he liked, something that was beautiful. The portrait artist Kaulbach came into his studio one day and found his little daughter leaning over his table eating cherries and getting the juice on his drawings. She made such a beautiful picture looking up at him with her roguish face that he wanted to paint her.

What makes the picture beautiful? Can you tell what the artist saw of beauty in the scene? Yes, the beautiful lines and color, the fine expression of the face, the dark and light in the dress and background, the bright spot of the girl's face, the arrangement. It is a beautiful picture of a child.

The teacher should explain that an artist's workshop is called a studio, and tell something about the way some pictures are painted upon canvas instead of paper, and with oil paint instead of water color.

Perhaps the chief art contribution which the picture-study lessons may make to children of the second grade will be some added appreciation of the beauty of nature. If the lessons give to the children some sense of the beauty of life which they can understand, such as horses, cows, trees, sunlight and shadow, and the colors of nature, we may expect them to appreciate the work of artists who can preserve these beauties for us on canvas.

Suitable Pictures for Grade II. The following pictures may be included in second-grade appreciation lessons if desired. Further information on securing prints is given on page 54.

*** The Horse Fair—Bonheur

*** A Distinguished Member of the Humane Society, or

An Aristocrat. (Same picture)—Landseer
*** Madonna of the Chair—Raphael
** Sheepfold—Jacque
* The Helping Hand—Renouf
* Can't You Talk?—Holmes
* Return to the Farm—Troyon
* Spring—Mauve
* Autumn—Mauve
* Return to the Fold—Mauve
* Guardian of the Flock—Millet

* Brown-Robertson Co., Inc., 8 E. 49th St., New York, N. Y.
** Art Extension Society, Westport, Conn.
*** May be obtained from both companies.

Sculpture and Architecture. A lesson in the appreciation of sculpture should be undertaken in connection with modeling. Very little can be gained in this grade, however, from a study of photographs of sculpture. Actual objects such as school casts or statues and monuments of the city should be studied if available. Many public buildings afford examples of sculptured ornament of good quality. If any of the parents or people in the neighborhood have good specimens of modeled objects these might be borrowed for a short time for study. If the children could see some of the modeled animals by Antoine Louis Barye[1] it would be very helpful in the modeling lessons.

A lesson in the appreciation of fine buildings of the community enables the teacher to introduce the subject of architecture. A church, a fine old farmhouse, or the school building may become the subject for study in this connection. In the most rural of communities the teacher can find interesting objects for study. Even a barn may possess fine proportion and unity. In North America we have too long felt that it was necessary to visit Europe to see art. Art may exist anywhere; it is merely a question of whether we are seeking pretentious art or humble art.

[1] Inexpensive casts of animals and innumerable objects of sculpture may be secured from P. P. Caproni and Bro., 1914 Washington St., Boston, Mass.

CHAPTER FOUR

ART — GRADE THREE

GROUP consciousness may be made a factor of great importance in teaching art in all grades. In Grade III cooperation and group activities are centered upon the making of sand-table villages and landscapes, such as Fort Dearborn; in the making of stage scenery for the school theater; and in the dramatization of topics calling for special costumes and decorations. The training furnished through these cooperative exercises results in mutual accord which should be very helpful in later life when it becomes the duty of the individual to work cooperatively in his community.

Securing Cooperative Effort. Unity and combined effort are secured by permitting children to work together for a common good. The projects selected for cooperative endeavor should be of such a nature that while they utilize the interests of the children they will at the same time develop some consciousness, even though elemental, of community needs and the responsibilities of citizenship. For example, in the study of Fort Dearborn the idea of the protection and security of the community may be stressed. In the early days of America it was necessary to combine in cooperative effort to withstand the attacks of the Indian and other enemies of civilization. Today it is necessary to combine in an effort to overcome the evil effects of crime, disease, poor water, poor milk, smoke, and noise. In the study of the theater, music, and games, some attention may be directed to the cooperative efforts of modern people to provide profitable, refined, and beneficial amusement and entertainment for the community.

Topics Emphasized in This Grade. Emphasis for the grade has been placed upon the topics of Dramatization, Outdoor Activities, and Nature Study. A study of the

theater and various amusements, stage scenery, music, plays and games, Greek and Indian life, and similar subjects may be included in this group. All of these topics are of great interest to children and offer fine possibilities for correlation with many of the regular subjects of the grade. The study of literature may develop into a play for dramatization. The making of costumes, stage scenery, posters, and illustrative material may be the result, and all may be motivated by some of the grade subjects being studied.

The most important pictures chosen for study in this grade feature outdoor life and in this connection the child should be made to realize that clean, healthful play in the beautiful environment of nature is one of the blessings of life. Fair play and sportsmanship should be mentioned and a discussion of Boy and Girl Scout and Camp Fire Girl organizations may be presented further to interest the pupils in outdoor life. A lesson may be taught emphasizing the importance given to sports and games by the Greeks, how this influenced their whole life and made them lovers of nature and naturally great artists.

The outdoor life of the Indian may also be discussed in this connection, and poems, such as "Hiawatha," may be studied further to interest the pupils in the great realm of nature. The painting "Hiawatha," by Elizabeth Norris, will be of great value in developing an appreciation of nature and Indian life. Fine correlation with the work in literature is afforded in this instance.

Dramatization and plays offer an excellent opportunity to connect the interests of childhood with those of the adult. The pupils delight in developing little plays and tableaux in the classroom for an audience of parents and visitors. The morning exercise offers wonderful possibilities for coordination of art and other subjects of the school, and it offers opportunity to interrelate the activities of the school with those of real life. The singing of Christmas carols, for which special costumes are made, and similar activities are other instances of this kind of group correlation.

THE SCHOOL ASSEMBLY

In many schools the morning assembly is an established routine of the school program. Where such is the case many of the art projects, or those developed in coordination between the art and other departments, have a vital place. The morning assembly is the common meeting-ground of the pupils; it is a place where each department may contribute something of interest and value to other departments; where the best and choicest results of instruction may be presented for the pleasure and well-being of the whole school.

It is evident that the various projects grow out of the daily work. The topics are sometimes taken from science, history, geography, literature, music, art, or other subjects, or from the special seasonal topics, national holidays, or current events. The morning assembly furnishes a fitting culmination for successful projects and is to be recommended in this connection whenever possible.

Book Week. All over the country we celebrate book week. To stimulate a greater interest in books is a worthy cause and the pupils will be glad to cooperate in special grade activities devoted to this topic. Well known characters from children's books may be selected and dramatized by the children, such as the Indian, Peter Pan, Red Riding Hood, the Good Fairy, Alice in Wonderland, and the Dutch Twins. A number of children dressed to represent these characters are shown on page 111. The parents helped in making the costumes, but the impersonation of people who live vividly in the children's imagination furnished an exercise of value in itself and one in which the children took great pride.

An assembly was given in which the children told about these characters. On the day of the assembly, the Dutch Twins had wooden shoes but on the day this photograph was taken they were left at home. On the wall you see the familiar book-week poster. On either side of it are the children's attempts at making posters. Two half-hour periods were all

the time that could be given to this particular poster problem. The children were given the opportunity to make the letters either in crayon or paper-cutting. The poster on the right shows letters cut out of paper and the one on the left shows crayon lettering.

The children had learned how to draw Red Riding Hood, the Indian, and the Fairy in the first grade. The teacher wondered if seeing the children actually dressed as these characters would help them to draw the figures better. She therefore gave them an opportunity to draw from these stories again. The figures were more natural. The child who was dressed as Red Riding Hood made a sketch of Red Riding Hood which was a hundred per cent better than any she had drawn before. The same was true of the boy dressed as an Indian. In fact the interest in the Indian costume was so great that all the pupils wanted to make Indian costumes.

Courtesy of the University Laboratory Schools, The University of Chicago

These children dressed to impersonate an Indian, Peter Pan, Red Riding Hood, the Good Fairy, Alice in Wonderland, and the Dutch Twins for special exercises during Book Week

INDIAN LIFE

A PROJECT in Indian life was planned with the result shown on page 113. In the photograph you see children dressed in costumes they have made themselves. If you could have seen these in course of construction you would have seen one hundred per cent concentration on the task at hand as they pinned them on one another and measured for the length and size. The wigwam also was made by the children and was made large enough for them to get inside.

Indian costumes may be made from burlap, cambric, or even heavy wrapping paper. Tan colored cambric is an excellent cloth for this purpose. It is an easy material for children to work with and since it is not transparent the costume may be worn over any colored clothing. The costume is most easily made as a "slip-over." That is, the cloth is folded so as to make the front and back, a circular hole is cut at the fold to allow the head to slip through, and the cloth is then tucked, pinned, and sewed to get the desired effect. Indian designs may be drawn on cambric with colored crayons or they may be painted with opaque water colors and India ink. Very striking effects may be obtained with the painted designs.

Burlap may be used for some of the costumes. It can be raveled to make fringe, and colored yarn may be stitched into it for decorations. Paper costumes can be used if it is impossible to secure cloth. Paper is not recommended, however, for it is very difficult for children to secure good results with it. The wigwam may be made of burlap stretched over three poles.

The picture does not show the decorations on the costumes. An interest in Indian design was aroused in the second grade and this was carried still farther here. The designs were simple but strictly Indian in character. The children were greatly interested in the design of the rug shown.

Appreciation of Indian art was gained by visiting Indian collections, by bringing Indian rugs, pottery, bead work,

weapons, or other objects from home, and by studying pictures secured from railroad folders and other sources. Books describing Indian life were brought from the library or from home for illustrations. The picture "Hiawatha," by Norris, and the poem "Hiawatha," by Longfellow, contributed immensely in vitalizing these lessons. The topic of Indian life was made as real to the children as possible and the finished scene was shown as an assembly exercise.

DRAWING AND ILLUSTRATION

It is always advisable to begin the work of any grade with the materials and mediums which are easiest to handle and to introduce the more difficult mediums and materials later in the year. For this reason the first lesson in drawing should be given with colored crayons.

Courtesy of the University Laboratory Schools, The University of Chicago

Dramatization of Indian life—a result of the Indian project used for an assembly period

A drawing exercise may be presented the first day of the school year which will involve drawing from memory and imagination. There are certain stories, such as Boy Blue, Little Bo-peep, The Pied Piper, The Old Woman in the Shoe, that all children love. They like to illustrate them in the first grade. In the second grade their joy in drawing them is increased as their power to express themselves graphically is increased. In the third grade they are even more enthusiastic for they can make their objects more real. There is great value in giving children time to illustrate the same stories several years in succession because they gain confidence in themselves as they realize how much better their work is.

This course of study is based upon the principle of correlation. We should help the teacher of geography, history, nature study, and music by making colorful illustrations, by aiding in all grade work in every way possible. However, we should often give the children a chance to draw or paint anything they wish just for the joy there is in it. Art courses that do not give opportunity for work "just for fun" miss a great deal. It is in these periods that the teacher can get the viewpoint of the children.

Topics for Illustration. The following topics may be used for illustration work in Grade III: Scenes and characters from such selections as Adventures of a Brownie, Pinocchio, A Dog of Flanders, Robinson Crusoe, Sleeping Beauty, Kipling's Jungle Book, Beauty and the Beast, and Gulliver's Travels; geographic landscapes; events of history; seasonal topics; and current events. Children in every grade like to draw, cut, and paint Indians. Indian life becomes an interesting topic in this grade because of the Indian project and because in the study of early American history there is a special need for the study of Indians.

The following plan has proved valuable in teaching drawing for special topics:

1. Have children read the story and tell what they would like to draw.

2. Allow free illustration of the story in any way that appeals to the children. They will find that they cannot draw many of the things desired for the picture.
3. Have children make a list of the objects which they need and do not know how to draw.
4. Give a series of special lessons in drawing to supply the information and ability needed.
5. Give a final lesson in placing and arranging the objects to compose a pleasing picture.

Tree-Drawing and Composition. In the third grade it is necessary to draw simple landscapes for illustrating some of the subject-matter of the grade. Geographic landscapes, for example, require the drawing of different kinds of country, such as hills, mountains, trees and forests, lakes, rivers, and coast lines. These landscapes should not only be true from the geographic standpoint, but they should be arranged according to good composition.

Some attention should be given to the placing of *emphasis* (the center of interest, dominance, and subordination), the effect of distance, and different positions. As stress is being placed particularly upon trees and tree composition in the drawing lessons, the painting "Shepherdess," by Lerolle may be shown to illustrate the way in which a famous artist arranged trees in his picture. A study of this picture will be very valuable in teaching composition to the children.

The dictation of simple arrangements for compositions will result in more original illustrations later on. Children in the first and second grades are taught how to draw very simple tree trunks but these do not satisfy the third-grader. Since some of the illustrations for geography, history, and literature call for compositions of woods, we have found it helpful to dictate the drawing of many compositions containing trees. Plate 38, on page 116, shows some directed tree drawings. Special attention has been given to the size of the trunks, their value and arrangement, and to the foliage. Work of this kind carries over very easily into paper-cutting, design, and poster problems and proves helpful in many ways.

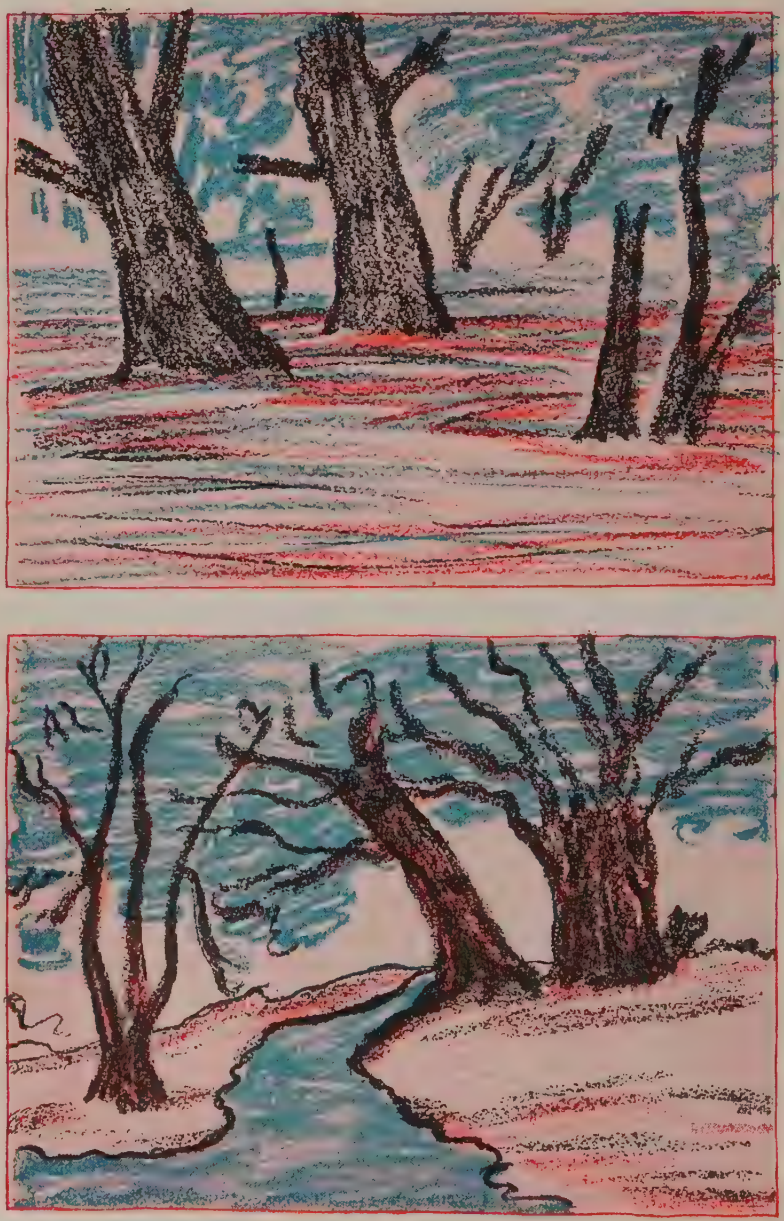


PLATE 38. Directed lessons in tree-drawing and composition

PLATE 39. Original drawing by third-grade children showing what they have learned from picture study and directed lessons in composition

Landscape Composition. In Plate 39, page 117, the original landscape drawings by third-grade children show that they have learned something from the picture by Lerolle which was before them in the room for many days. For example, they have learned to give strength and force to their compositions by making the tree trunks and foliage darker than the grass or ground. Note the drawing of faces and the action expressed by the figures. These drawings indicate that the standard of attainment suggested in Plate 38 was easily attained.

Some of the things children like to know are how to represent hills, mountains, and level country, individual trees and forests, birch, pine, palm, and other trees, large dark tree trunks, a river with one shore showing in the background, a river with both shores showing and perhaps an Indian paddling down the river; how to make trees "up higher on the paper and smaller," to make them look far away, how to make roads winding and straight. If the children have been taught to draw a house, castle, or canoe, they need to draw it many times in order to memorize it. Little children like to repeat the same thing many times. However, instead of giving them several monotonous repetition lessons, vary the procedure and dictate compositions in which the objects may be on the top of the hill, on the side of the hill, or on level ground. It is only by experimenting with many arrangements that they will learn to make good original compositions. This crude beginning can be added to in each grade until the children are not handicapped by lack of experience in making compositions.

Figure-Drawing. Other examples of free imaginative drawing are shown in Plate 40, page 121. These original figure-drawings were made from memory and imagination.

The drawings of Santa Claus and the boy with a lantern were simplified for third grade by students in the teacher-training classes. Compare the details of the Santa Claus drawing with those of the first and second grades (Plates 14, p. 40, and 27, p. 77); note the simple but effective way the

face is drawn on the boy with the lantern. The little girl playing the violin was drawn by a nine-year-old child. This is an excellent standard of free drawing for this grade. It shows the result of teaching simple figures. The drawing contains just enough lines to show a little girl and tell us that she is playing a violin. The child has expressed real personality in the figure. If the teacher dictates the method of drawing figures which she has simplified by taking out the details, the child forms the habit of making big lines and therefore learns to do the same thing when attempting to draw figures without the teacher's direction.

Action-drawing. The method of teaching figure-drawing outlined in the preceding chapter on Grade II should be continued in this grade. The stick figure continues to be the basis for teaching action-drawing. If the children in Grade III have had no figure-drawing, they should be taught how to draw the figures according to the lessons given in Grades I and II. They should not be given the more detailed figures shown for Grade III unless they have first drawn them in a simple way.

Children who have reached the third grade without any definite instruction in figure-drawing can learn very quickly the steps previously given. The teacher should insist that they make up this work to prepare for the more detailed work of the grade. If this detailed work is attempted before they have gone through the preliminary steps, time will be lost, for the children will not be able to get the proportions of the figure.

By the end of the third grade the pupils should be able to indicate the human figure in any position desired, using action lines to obtain the bend at knees and elbows. They should be able to express more accuracy in shape and proportion and to clothe the figures with costumes of the different nationalities studied in the subject-matter of the grade.

Animal-Drawing. In teaching the children how to draw animals the instructor must use her originality in thinking of different ways of using the animals, so that the repeated

drawing will not become monotonous. For example, if the tiger is to be drawn the teacher should read to the children descriptions of the tiger's characteristics, how he belongs to the cat family, how his legs are very large and powerful, and how, like the cat, he is quick and active. Selections may be read from Kipling's Jungle Book to give some idea of jungle life.

Different Mediums. Different mediums help to make the subject represented more interesting. The medium of water color is appropriate for painting foliage. Many colors may be run together to represent the jungle or background for the figure. Plate 43, page 127, shows renderings of the tiger in water color and crayon, and for a poster design. A more conventional form of drawing is here represented. It is a good type of expression as a preparation for paper-cutting and decorative design. The poster gave opportunity to teach lettering and spacing. These drawings were made by student-teachers to demonstrate this method of constructive drawing.

Steps in Drawing the Tiger (Plate 41, p. 123). The following plan for drawing the tiger will be of great help in both the drawing and design problems. Be sure to have a finished drawing placed where the children can see it as they draw.

Step 1. It is always wise for the teacher to draw the first line on the same size paper that the children are using because in that way they get the length of the line in proportion to the paper and its proper placement in regard to top and side of the paper. After it has been drawn on the paper the teacher should draw the line on the board so that the children can see the line better and can see the way her hand moves to make it.

In drawing the tiger a few dots placed correctly, as indicated, will aid in getting good proportion, and will show where to start certain lines.

Step 2. Let us draw the long curved line to represent the length of the tiger as indicated on the chart. We are ready for the next line. It begins a little farther forward than the

PLATE 40. Suggestions for figure-drawing for the third grade

middle. For part of the way it runs almost parallel with the tiger's back.

Step 3. Let us now put in the lines for the tiger's feet. Notice that the front one is farther forward than the head; the back one is under the last line we made; the two middle ones are closer together and farther up to represent the tiger crawling over the rocks or jungle growth. Plate 43 illustrates this position of the tiger in relation to its surroundings.

Step 4. Let us finish the back leg and put in the tail. Let us finish the next to the back foot and make the lines of the head and first two feet as indicated.

Step 5. Let us finish the drawing showing the long powerful body of the tiger. The result is a drawing symbolizing the fierce strength and graceful lines of the animal.

The first time the method of drawing the tiger is dictated, it should be done very slowly. The placing, length and curve of each line should be discussed before it is drawn. The next time it is dictated, increase in speed should not be the aim, but the work will naturally go a little faster. If the child tries to go fast he will not do it well. Each time the drawing is repeated it will go faster and finally it will have a real swing to it.

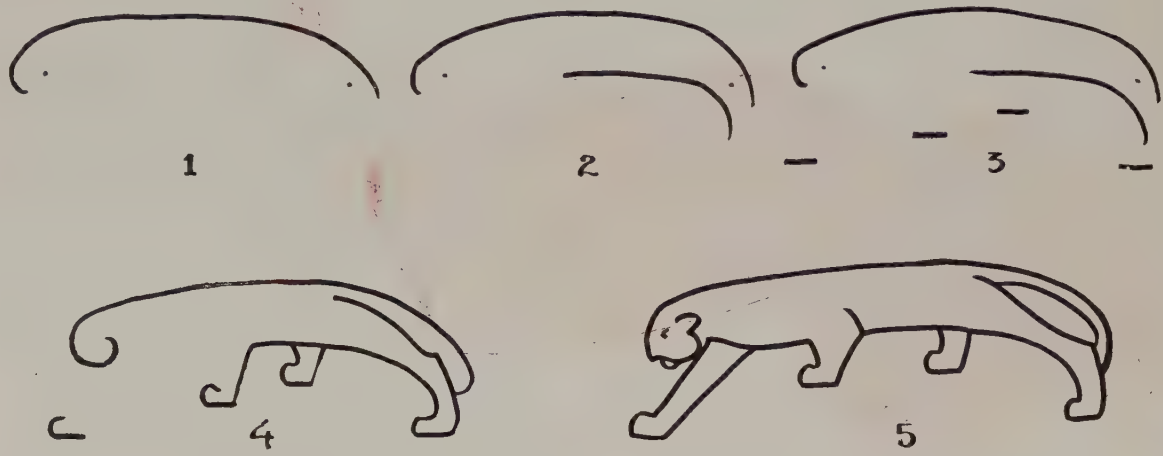
Helping children to draw one animal by picking out big lines aids them in drawing other animals in large lines instead of fussing over the details and losing the proportion. The child will form the habit of drawing the more important lines first and then making the details.

Nature Drawing. Lessons in the drawing of plants and flowers, butterflies, insects, birds, and animals should be undertaken whenever there is a possibility of correlating this work with the courses in natural science or other studies.

The specimens from nature drawn in this grade will conform more nearly to the actual appearances. Emphasis should be placed on true shape and proportions and the individual characteristics of the object. For example, the child will not be interested in drawing just birds, but will want to show the

PLATE 41

After the children have memorized the drawing of the tiger it can be used in the illustration of stories . . . . .



Steps in Drawing a Tiger

Courtesy Celia Regnier and
The School Arts Magazine

PLATE 42. Paper-cutting problem by a student-teacher. Problems like this are suitable for third grade

family traits and special differences such as shape of legs, bill, wings, and other features. The actual color of the bird will be more perfectly recorded. In general the children are more particular about their drawings and want them to look better.

Wherever possible there should be a real purpose for nature drawing. Some drawing for the sake of drawing is good, but drawing for some practical purpose is better. Flowers, birds, trees, or animals may be repeated to give borders and patterns. These nature units may be used later in connection with design and construction projects of various kinds.

Easel Painting. Lessons in painting at the easel on large-size paper may be offered from time to time. Easel painting with fresco paints has been suggested for first and second grades (see Chap. II, p. 31 and Chap. III, p. 79) and it may be introduced advantageously into any grade where new interest and incentive for art work are desired. If the regular painting lesson should seem to become monotonous by lack of variety a few lessons at the easel tend to restore the enthusiasm in a very desirable way.

DESIGN—DECORATIVE ARRANGEMENT

Indian Poster. The drawing of Indians was a definite part of the Indian project described earlier in the chapter. In drawing and painting the children like to show the Indian decorated with feathers of all colors, with moccasins of many colored beads, and with porcupine quill ornaments on his skin clothing. After they have proceeded in this way in several pictures we may show them how the drawing of an Indian with his many colors may be reduced to a few colors or to even one color and a neutral to secure the effect of a poster. The Indian figure illustrated in Plate 42 was very effective when cut from paper of red, black, and gray. Limiting the children to one color and a neutral forces them to use their originality in the arrangement of the values. Children when restricted in this way can originate very clever designs

and gain a real feeling for decorative composition as distinct from pictorial composition. Poster work provides a natural transition from representation to design—from free expression to more formal and conventional expression.

ORDERLY ARRANGEMENT. The exercises in design may be classified under two headings:

1. The making of designs with a specific and definite purpose and use in view.
2. Exercises in orderly arrangement to develop an understanding and appreciation of the possibilities of decorative composition.

> Design is nothing more than arrangement. It is the orderly grouping together of parts. The parts may be nothing more than the simplest forms. The whole theory of design when concentrated results in nothing more than good spacing. It is so simple that nine-tenths of the students and teachers of design, anxiously looking for success, try to achieve it with complicated designs. If good spacing is achieved with the grouping of mere lines or good grouping is produced with simple spots, it is the finest practice possible toward successful design. Whether the lines and spots become motifs from nature or imaginative forms later on, the success of the designs, even though complicated, will depend upon the spacing and grouping being equally good.
>
> Children's designs very often are more perfect than those of advanced students. The reason is that they naturally achieve simple results, and these simple results when repeated give a more pleasing assembly. It is for this same reason that the various forms of Old World peasant art, the motifs in weaving and wood carving, and many other applications are preferred by artists to the ornate, complicated forms of the Renaissance and French Empire periods.[1]

BEAUTY IN SIMPLE THINGS. In this connection the teacher should show photographs, magazine prints, or original objects if possible, illustrating the simplicity and beauty of peasant art in contrast with examples of the ornate, overdecorated,

[1] Pedro J. Lemos, "Design Simplified," *The School Arts Magazine*, Vol. XXV, p. 168. Worcester, Mass.: The Davis Press, Inc.

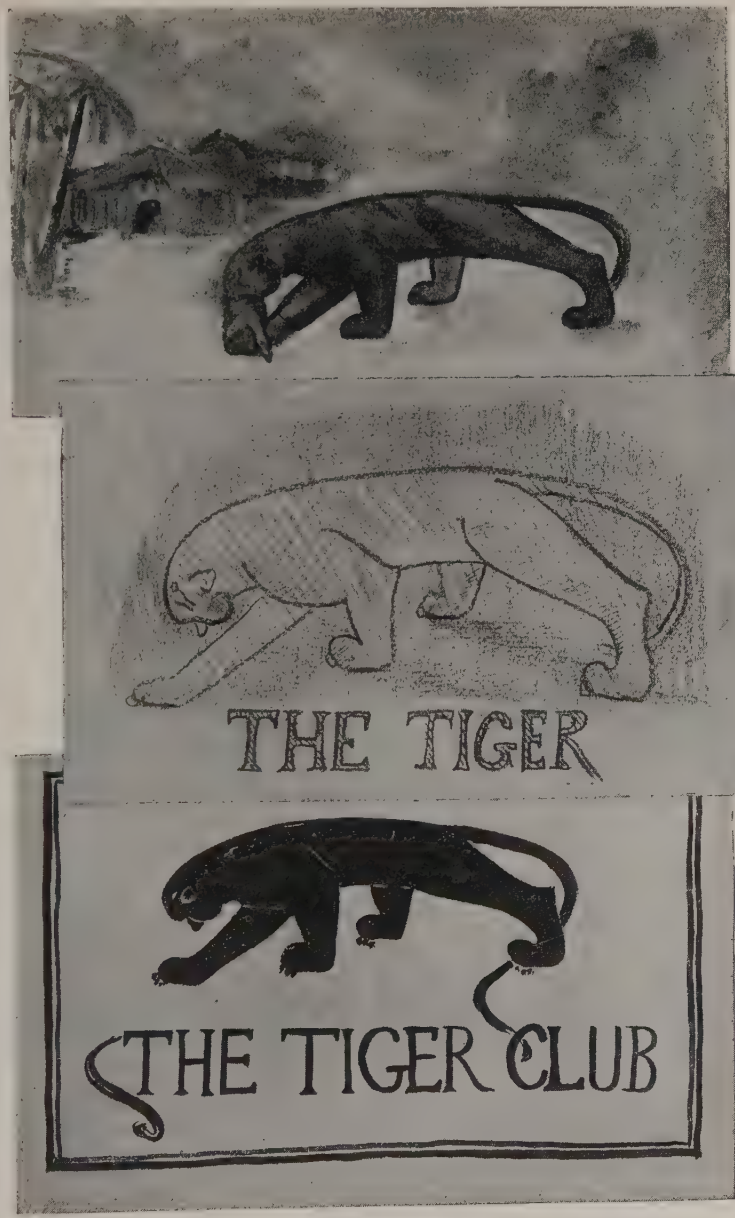


PLATE 43. Renderings of the tiger in water color, in crayon, and for a poster design

and meaningless types of the Renaissance and Empire periods. American colonial art may be shown also as examples of simple yet beautiful design.

The teacher should emphasize the fact that objects of art do not have to be complicated or expensive to be beautiful, that beauty may exist in simple things of the farm home—hooked rugs, plain furniture, clocks, quilts, etc.—if the objects are made according to correct principles of art.

Simple Design Principles. Certain elemental principles of arrangement form the basis of all work in design. The steps in design development for the third grade involve the following principles:

1. *Simple repetition*, in which shapes, colors, and spaces are caused to follow one another in regular order.

2. *Simple alternation*, in which a unit is changed regularly in the scheme of arrangement, first being placed right side up, then up side down, right side up, etc. Alternation may be secured by repeating a large unit with a small unit, or by repeating a blue unit with an orange unit, etc. In the latter case it is only an alternation of color, not of shape. Both shape and color may be alternated, producing further change and variety.

3. *Simple emphasis*, in which one unit is made more prominent or important than any other unit in the scheme. Emphasis may be obtained by the size, shape, value, or color of the unit.

Plate 44 shows reproductions of border designs illustrating these three simple principles. The teacher should know thoroughly the scope of the principles in producing design. She should use her own judgment as to whether she will mention principles to the students, or teach arrangement merely by suggestion and guidance.

However, the study of design in this grade is the first step toward the more detailed study of decorative arrangement of the upper grades, and the pupils should at least learn the names, *repetition*, *alternation*, and *emphasis*. From the exercises and problems the pupil should learn the importance of

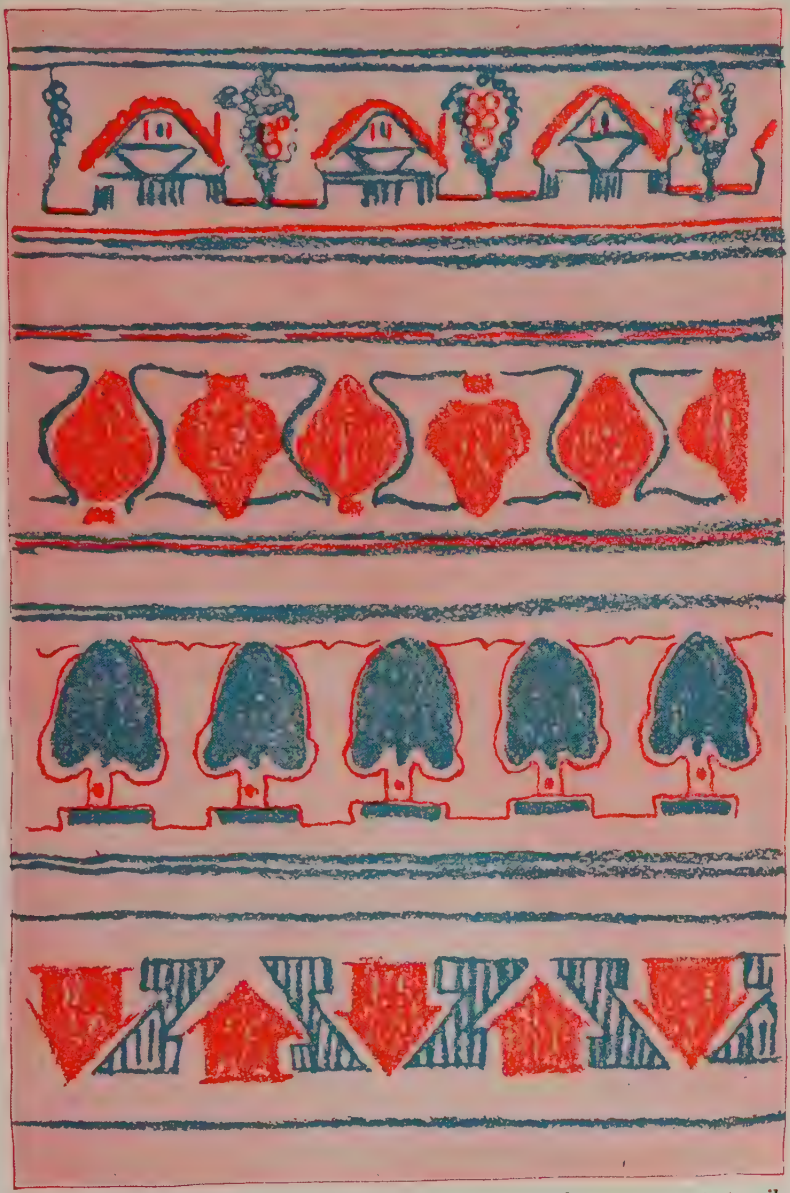


PLATE 44. Border designs made with colored crayons from paper-cut stencils

correct space relations in all art work for the grade, such as posters, page margins, borders, patterns, lettering, printing, and illustration.

We can introduce children to one of the most important factors in designs, their meaning. The whole history of design will become more interesting to them when they realize the meaning of design in such objects as oriental rugs, laces, pottery, basketry, or batik. The teacher should discuss with the children the meaning of symbolism of design units from a number of sources, such as Indian, Egyptian, and some of the simpler Oriental and Gothic types.

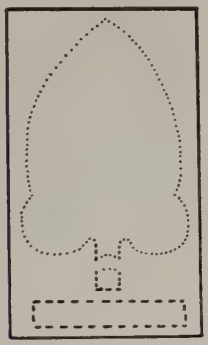
The making of symbolic designs for the costumes in the Indian project provides an opportunity to create a real interest in this topic. Children learn to appreciate by doing. Simple design problems, although remote from great works of art, give children appreciation of conventionalized forms and different decorative arrangements.

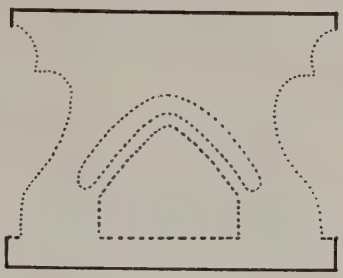
Stencil Design. In Plate 45 a method is presented for making design motifs from paper. This method, however, differs from that used in the second grade. In this case the space made by cutting is to be used and not the unit cut, although this may be used if desired just as is done in second grade (see p. 88).

The purpose of this exercise is to make a stencil from which a great many units may be repeated. The plate shows designs made by folding and cutting oblong or square pieces of paper to make trees, houses, and a castle. These units were used because the children had learned to draw different kinds of trees and houses. The trees and the flowers give very simple but effective units. Branches for the trees may be drawn in with crayon to give a little more interest if desired.

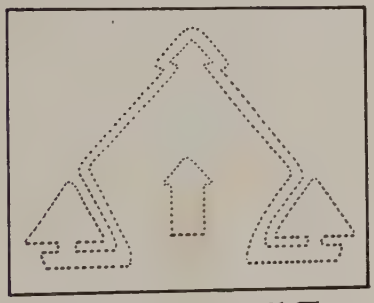
The children should not be permitted to attempt complicated units or designs too difficult for paper-cutting. One purpose of the design lesson is to show them how effective simple things may become.

When the stencil units are cut the teacher should show the children how to make borders by placing the stencil on the

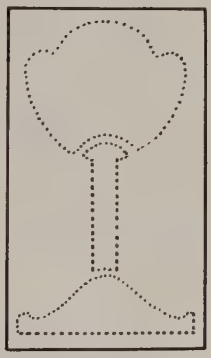




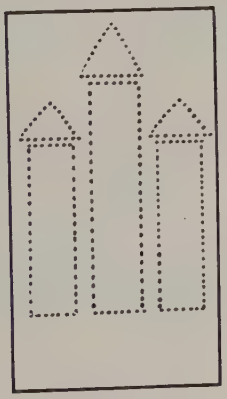
Trees with House in Center



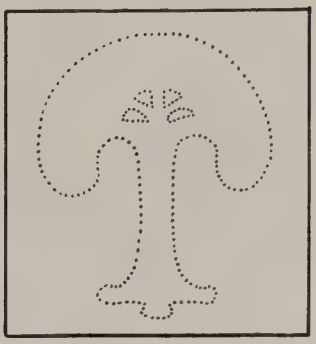
House with Small Trees



Flower



Castle



Simple Stencil Designs

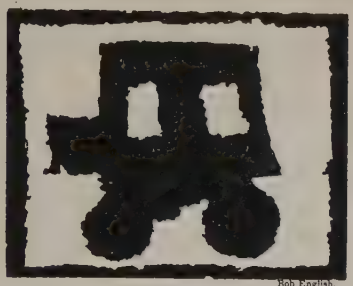
paper and either tracing the outline or making a unit by rubbing the crayon across the opening of the stencil. A little practice will enable the pupils to repeat their units in straight and orderly rows. Extra lines may be added as shown in the plate of borders.

The children learn what effects a double line will have, how filling in the spaces gives a quite different result from outlining, and the possibilities of using various color combinations, such as blue and orange, in a number of different ways. In this work we can teach the pupil that design units should be in agreement with the shape of the space in which they are placed. When lines are added they should agree with the containing line of the border or the main lines of the stencil. The stencil exercise appeals to the ingenuity of children and excellent results may be secured in design work from this method. Different children in the room, starting perhaps with the same or similar stencils, will have far different results. No two need be alike if the teacher guides the work successfully.

Plate 44, page 129, shows design arrangements made by using simple stencils with the addition of decorative lines. One simple stencil repeated and arranged in different ways can teach the child much appreciation of design. The illustration shows how similar units may produce different effects by alternation, by use of connecting lines, by filling in the background, by adding parallel lines at the top and bottom, and by using two different colors.

Problems in Measurement and Design. Primary children should have some practice in using a ruler. They should be able to use the ruler for measuring objects, as for example, the height of a child standing against a door casing, the length, breadth, and thickness of a box, the diameter of a vase or bowl, etc. By the end of the third grade the child should be able to measure in inches, half inches, and quarter inches.

Have the pupils rule their paper into one-inch squares and draw design units in each square for simple *repetition;* have

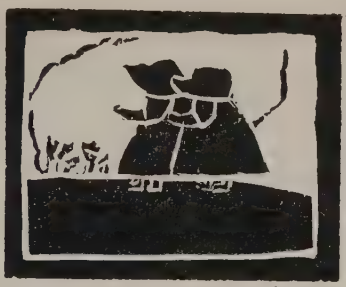


Bob English.

THE STAGE COACH

The stage coach rumbles down the street
The driver sits in his high seat.
The stage coach goes from place to place
The people inside sit face to face.

—Richard Zeisler.



Jane Boucher

THE SUN BONNET BABIES

The Sun Bonnet Babies to Holland went,
To Holland all their dolls were sent.
The Sun Bonnet Babies were Molly and May
The minute they got there they wanted to play

Jane Bouchel

THE SEA-GOING TUGS

The seagoing tug pulls all day long.
Its ropes and chains are very strong.
Upon the sea and in the bay
The sea going tug pulls night and day.

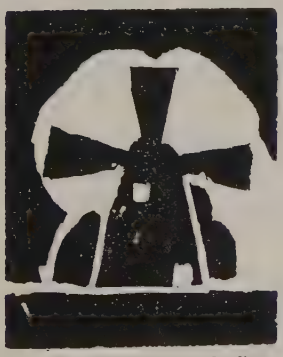
Group Poem.

Frank Furry

THE SEA GOING TUG

Last night when I was sitting on the rug.
Daddy told me about the sea going tug.
He told me it goes on river and sea
And it's always as busy as busy can be.

—Richard Zeisler.



Jane Olsen

THE WINDMILL

O windmill, you have such big arms,
I often see you on the farms
But when it is a windy day,
O windmill, you begin to play.

—Morris Fishbein.

Richard Mather

CHICAGO

Chicago was a wilderness
One hundred years ago.
There were nothing but the Indians
That travelled through the snow.
Chicago grew up very fast,
Its days of wilderness soon passed.

—Martha Asher.

PLATE 46. A page of wood-block prints and poems by third-graders—excellent problem combining design, construction, printing, and language

them omit every other square, *alternating* a blank space with a unit; have them design units for the squares in which one part of the unit will be larger for *emphasis*, as for example, a large leaf and two small leaves, a large flower and two smaller flowers, etc. These exercises will give them some understanding and appreciation of simple surface pattern.

The borders and surface patterns made by the pupils may be applied to usable objects in many ways. Boxes may be constructed on the sixteen-fold (see Plate 60, p. 168) and decorated with borders or all-over pattern. Booklet covers, dollhouse decorations, envelopes or folders, wastebaskets, costumes, and many other things used by the child may be given a decorative appearance by application of this method.

A BOOK OF POEMS AND WOODCUTS

An excellent problem combining design, construction, printing, and language may be developed by making a booklet for original poems and woodcuts. The poems should be written by the children and printed by them in the print shop, or lettered if a printing equipment is not available. The wood blocks should be designed and cut by the children and printed at the same time with the poems. Linoleum glued onto blocks is better than wood for cutting by young children because the material is less difficult to cut and the children are less likely to have trouble with the knife's slipping. Plate 46, page 133, shows original wood-block prints and poems made by third-grade children of the Elementary School of The University of Chicago.

In presenting this lesson the teacher discussed wood-block prints and showed examples. (It would be wise for the teacher to make several simple wood blocks so as to have specimens of prints for demonstration.) The teacher cut a very simple design on a linoleum block while the children watched. This was passed around so they could see it in the actual material which they would use. A print was made from the block and the teacher explained that the parts they cut out would be

white and the parts they left uncut would be black in the print. The children were given an opportunity to make a wood-block design with pencil as a first step. In spite of the fact that they had seen wood-block designs, their own designs were far too complicated and difficult for wood-cutting even by an experienced person. The instructor then made a design using paper-cutting as a medium, for this of necessity prevents detail. The result was more successful and all the children became interested in making cut-paper designs.

Two of the children who had succeeded in the regular art work to such an extent that they were far ahead of the rest of the class were given the first chance to cut a design in a linoleum block. They used ordinary pocket knives and cut their own designs. When the prints were made, they saw many things that should be changed and the rest of the class profited by their experiences.

It took several trials on the part of the best members of the class to prove that what the teacher said was true, namely that the design must be simple, that it should be something like a cut-paper design, and that it should have few little fine parts.

Linoleum blocks were prepared for cutting by painting them white. When they were dry the design was sketched in pencil on the block. Then the parts that would not be cut out were inked in black so that the children could get the effect of the design.

Planning the Book. Each child made as many woodcuts as he could and as many poems. These were used just as the child made them without any criticism from the teacher. A committee of three children was appointed to take charge of the book. Perhaps they would read a certain poem and say, "We need a woodcut to go with this poem. Who will make one?" When some child wanted to make a certain design on the wood block the committee would ask, "Who can make a poem to go with Jack's lighthouse?" Everyone was enthusiastic and ready to do his part to make the book one complete unit, with a poem for each design. The children

attempted to print some of the pages on little hand-presses. It was found to be too tedious a task, for there were so many pages. The book was finally printed at a near-by print shop. The material used for the pages and cover was common wrapping paper, since this is very inexpensive.

Third-grade children have no difficulty in printing and preparing such a book. However, having the printing done at a regular shop makes it possible for children to get as many books as they wish for a nominal price. It also gives them a sense of responsibility and contact with a problem of adult life and one which they will soon meet in the preparation of school annuals and other publications.

LETTERING

By the end of the third grade the pupils should be able to cut in paper and print with pencil, crayon, or brush all the letters of the alphabet, using the straight-line letters shown on Plate 47. They should be able to make letters of various sizes and for many purposes, to keep them straight and neat, and to fill spaces properly. Emphasis should be placed upon the vertical, horizontal, diagonal, and curved lines used in making letters so that there will be more accuracy and refinement in this respect.

Lettering, after all, is a problem in design—a question of good placing and arrangement and good space-filling and composition. Opportunity is offered in this grade for practical application of lettering to the Book Week posters, the tiger and Indian posters, and to many other practical problems such as school folders and work envelopes (see Plate 50, p. 145).

COLOR

It is not the purpose of the color work of this grade to explain theory or color harmonies to the children to any great extent or to limit their color expression to any particular groups. The suggestions for teaching are given merely to

Courtesy William L. Longyear, Pratt Institute, Brooklyn, N. Y.

PLATE 47. In making this alphabet, appropriate for third-grade children, crayons, paints, or cut paper may be used. These are heavy block poster letters and the strokes should all be the same width

(This illustration is taken from *A Practical Folio of Lettering*, a portfolio of twelve plates containing information and appropriate letters for school use)

introduce the pupils to organized color work and to interest them in the systematic study of color which follows in the upper grades.

THE COLOR CIRCLE. It is not advisable to have the children spend much time in making color charts, but it is valuable experience to let them experiment in making the color circle in a most simple way. The teacher may show them a color circle (see Plate 48) with all the colors properly arranged and then draw a similar circle on the board with colored chalk. The children may draw one free-hand with colored crayons merely to fix in their minds the relationship of colors on the circle. The teacher should see that they get the violet directly below the yellow and the other complementary colors, blue and orange, red and green, directly opposite in the circle.

The color-circle exercise is a desirable aid in teaching the various color groups and the relationship of the different colors to one another. For example, the pupils should draw lines from red to green, orange to blue, and yellow to violet on the circle to show the complementary pairs of colors.

THE TRIAD GROUPS. In this grade the children may be given some elemental knowledge and practice in the simple triad groups. The color circle will be valuable in this respect. After the complementary relationships have been learned the teacher should make a color circle on the board and then draw lines from red to yellow, yellow to blue, and blue to red, making a triangle with its points on red, yellow, and blue. These colors when used together are called the red-yellow-blue triad. In the same manner draw a triangle connecting orange, green, and violet. This is called the orange-green-violet triad.

The children may be given problems in design and poster work using first the red-yellow-blue triad. When they have had experience in combining these colors, another triad, orange-green-violet, may be used.

The instructor may here teach a little about the significance of certain color combinations. Perhaps she may show some

PLATE 48. A color chart suitable for the primary grades. Primary children should be able to use accurately the six spectrum hues and the three values, black, white, and gray

bright advertisements made of red, yellow, and blue and explain that this scheme is often used for bright posters to attract attention; that it is gay and therefore well suited to popcorn boxes for the circus, carnival or circus posters, billboards, magazine advertisements, or other purposes where brilliant colors are needed to catch the eye. Likewise the orange, green, and violet combinations may be pointed out from various sources and discussed.

The Adjacent Groups. Some time during the year the teacher should explain the color combinations known as the adjacent groups. The adjacent colors are those lying near one another on the wheel, such as red, orange, yellow; yellow, green, blue; green, blue, violet, etc. Some practice may be given in the use of the adjacents in design problems.

It is essential that the instructor know the color groupings, even though she does not teach them to the children. She should suggest the use of related colors in design and poster work. Every opportunity that presents itself to guide pupils in a proper use, understanding, and appreciation of color should be utilized even in the lower grades.[1]

CONSTRUCTION

Shelter. The topic of shelter may be introduced in any grade. It is related to one of the fundamental necessities of life. This subject is treated at length in the department on Industrial Studies, Volume III, page 488.

In this grade under the discussion of *form* the pupils should be given some idea of the geometric solids, such as the cube, sphere, rectangular and triangular solids, cone, and hemisphere. Reference should then be made to the typical forms of shelters of various peoples, and their likeness to the type solids should be noted. The wigwam of the Indian is in the form of a cone, the igloo of the Eskimo resembles the hemi-

[1]For a complete study of color adapted to the needs of teachers in the public school the following book is highly recommended: Walter Sargent, *The Enjoyment and Use of Color*. New York: Charles Scribner's Sons.

sphere (see Vol. III, p. 510), log cabins and simple frame houses of today have rectangular shapes with triangular roofs. The pupils should be encouraged to observe in the houses and buildings around them as many examples of the geometric type as possible. They will want to draw the different shelters they notice and the teacher can help them to see the *form* better by showing them how to draw the geometric solids as a beginning.

Children like to construct things they have learned to draw. An opportunity is afforded here to construct in three dimensions the things they have learned to draw in two dimensions.

The children may be taught to make houses by using the sixteen-fold method (Plate 60, p. 168). Following the discussion of shelter they may be allowed to construct houses out of paper or cardboard and to give these more interest and character by adding porches, chimneys, bay windows, shutters, and other features. The picture at the top of page 141 shows the results of this problem.

After the houses shown in this picture had been completed several children made elaborate houses. One had a porch swing and reed furniture. One had window boxes with vines and red geraniums. Later in the year one of the children made George Washington's Mt. Vernon house, and another made Longfellow's house.

Attention was called to vertical and horizontal lines and the pupils tried to get as much accuracy in this respect as was possible with paper construction.

FORT DEARBORN

THE interest aroused in Indian and pioneer life at the beginning of the year stimulated the sand-table project of Fort Dearborn, shown in Plate 49, page 143. This may be developed as a theme from the early history of America. The study of *form* in connection with the shape of the fort should be continued in this problem. Further reference may

A study of form may result in the construction of houses, in which chimneys, porch shutters, and other features are added to give greater interest

be made to the vertical and horizontal lines as shown by the log construction in the fort and stockade.

Sometimes the children construct Fort Dearborn out of paper, sometimes out of sticks, as seen in the illustration. Sometimes they make the figures out of cardboard, sometimes out of clay and plasticine. Often they bring little Indian figures from home and dress little dolls to represent the fur traders and other white people.

The study of Fort Dearborn may be enriched by a visit to the museum or other places where appropriate data may be secured.

Work Envelopes. The children should be encouraged to collect all kinds of illustrative material, such as clippings from magazines and papers, for use in the various subjects they are studying in the school. Illustrative material is especially useful in art work. If children get the habit early in life of

looking for pictures, designs, and other useful suggestions, they will soon have at their disposal a very valuable and practical quantity of reference material.

They should be given some system to follow in collecting this material so that their collection will not result in mere piles of unsorted papers. They should make lists of the topics for which illustrative data will be needed, such as history, geography, costumes, animals, trees, Christmas, transportation, shelter, etc. Additional information on this subject will be found in the department on Industrial Studies, Volume III, page 549.

Large manila envelopes, 10x13 inches, should be made by the pupils or secured from the supply room and on these the name of the topic should be printed, painted, or pasted.

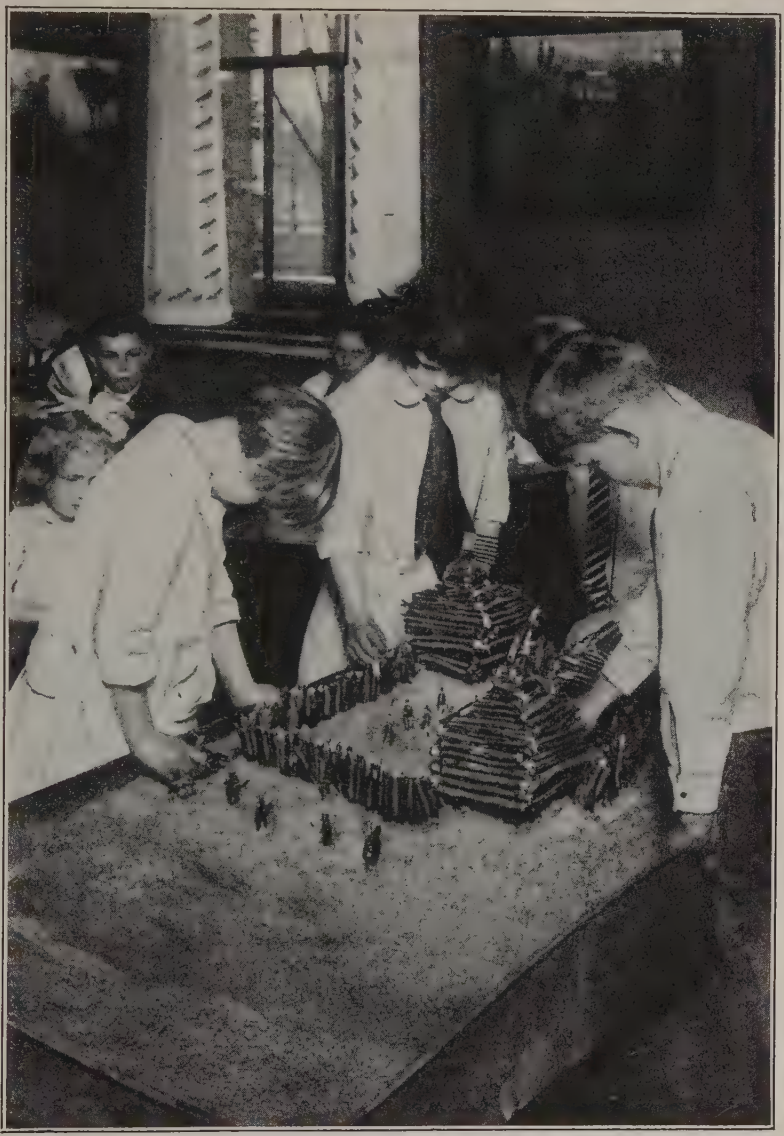
The following plan for making the letters for the "clipping" envelopes is very appropriate, for actual clippings are used for both letters and decorations.

Have the pupils collect from old magazines a number of colored backgrounds from advertisements which show no pronounced detail, and from these cut letters for the envelope topics. Then have the pupils cut from the magazines some appropriate unit which can be used with the lettering to give a note of decoration and a secondary interest. In Plate 50, page 145, a clipping of Independence Hall has been used on the history envelope. A basket of cotton and a decorative circle have been used on the other envelopes to make them more attractive.

This problem illustrates how inexpensive material in the form of wrapping paper and magazine clippings may result in a very practical school product.

STAGE SCENERY

STAGE scenery is often necessary for use in connection with the school assemblies or plays. The making of scenery need not be restricted to the upper grades. Children in the primary grades delight in this kind of construction activity.



Courtesy of the University Laboratory Schools, The University of Chicago

PLATE 49. Fort Dearborn reproduced as a sand-table project

Making scenery teaches the children cooperation and gives them a feeling of the practical relation of art to life.

This project is on the largest scale of any outlined for the primary art work, and careful preparation must be made and a definite plan provided for the work. Committees need to be formed and chairmen appointed.

The chairman of the tree committee must find a place on the floor in the hall or in an empty room for his committee to work, a place where the trees can be laid out at full length. He must see that the pieces are kept until there is opportunity to pin them up. The chairmen of the ground, flower, and bush committees need to plan their several working places. Each member on each committee feels his responsibility to the whole.

In constructing the scenery the children make drawings first and then small paper models. The best model may be chosen and changed to make it more effective if necessary. The drawing of trees and the tree composition lessons at the beginning of the year will be very helpful in this work and, in fact, they were planned to prepare the way for this project.

How to Make Scenery. Paper-cutting is a very good medium for scenery. It is better than paint for little children. The background for the scenery may be made from large sheets of bogus paper. These may be pinned together or pasted together. Bogus paper is cheap and of a neutral color, which looks well with any color. Black strips for tall trees can be pinned on the bogus paper. Bright green pieces may be put on here and there for foliage. Strips of lighter green or tan may be stretched across for grass or ground, and bushes or plants with brilliant colored flowers will add the touch of color needed. White strips painted with black crayon marks to make them look like birch trees give a very decorative effect to the scene.

Making stage scenery is a splendid way to teach the principles of good poster-making and the practical use of values. The scenery must be effective at a distance. We do not care to have many insignificant details and the values must be

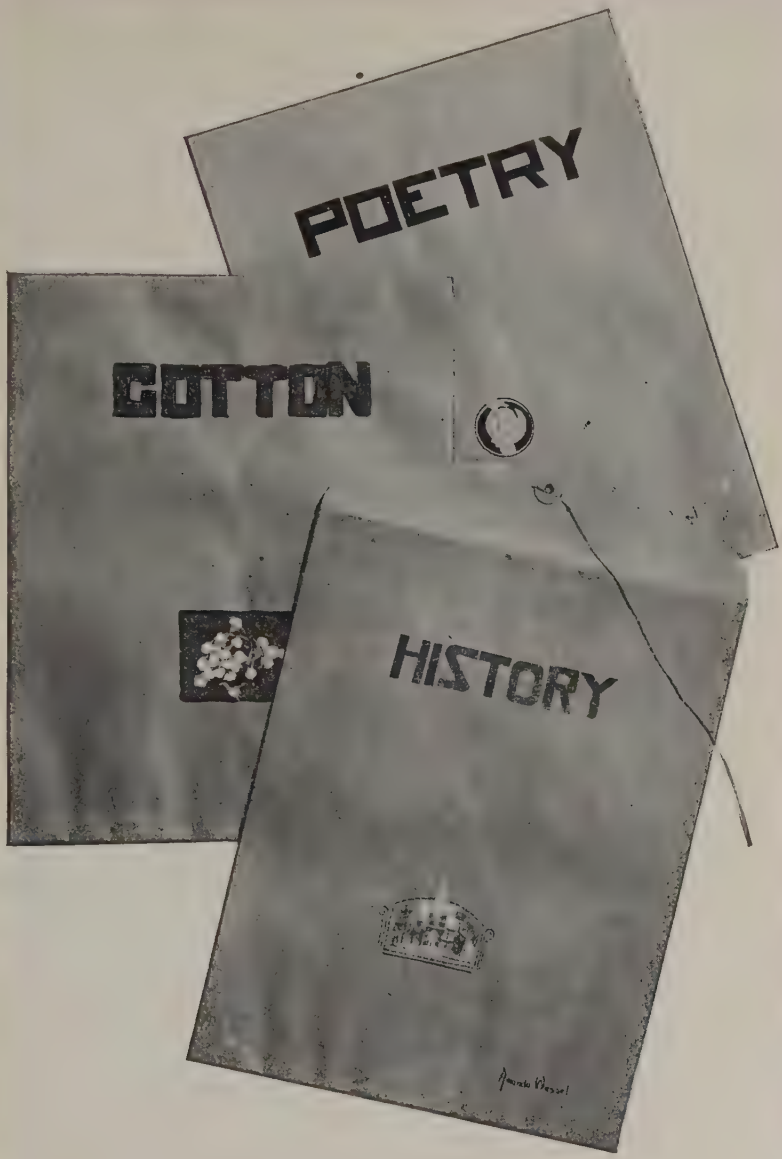


PLATE 50. Letters and pictures from advertisements decorate work envelopes

contrasting. Three values are all that should be used for this work. It also offers a fine way to correlate lessons in art, dramatics, and mathematics. In arithmetic class the children may measure the height of the place to be covered with scenery. Let us say, for example, that the scenery is to be woods. Bare trees may be planned and measured for the height and width. The large scene may be made a certain number of times as large as the small model. This gives opportunity for multiplying, measuring, and working according to scale. It gives a fine check on accuracy and emphasizes the necessity for careful figuring and planning.

On page 147 is shown some simple stage scenery which can be made by any primary grade. In one illustration the reader will see two children as they are at work pinning up the scenery. The other shows Hansel and Gretel in one scene of the play by that name. In the first illustration one can see the crude way the scenery is made, and in the other, how, when the footlights are on, the defects do not show. The cracks resulting from the crude piecing together are not disturbing when seen from a distance.

Final Results. The final results from the stage scenery project will be most gratifying. The morning exercise or special play will be more effective for the scenery and the enthusiasm of the children will last for days. There is a wonderful opportunity to teach the simple rules of color, design, and construction, as well as to give forever a feeling of practicability to art work and to connect it with the real life activities of the children.

EXAMPLES OF SUCCESSFUL SCENES

The following scenes have been worked out successfully in the third grade of the Elementary School of The University of Chicago:

Dick Whittington

The scenes were pasted on beaver board and changed for the different acts.

Courtesy of The School Arts Magazine

PLATE 51. The top picture shows children making crude stage scenery for "Hansel and Gretel." The two children below are taking the leading parts

1. In the Library

Black strips of paper were pasted horizontally and vertically on gray bogus paper to represent a bookcase. Children learned that the space between all shelves in the same bookcase need not be the same—that the designer often makes the spaces unequal because he knows that variety will add interest. Strips of colored paper just tall enough to fit between the shelves were pasted on for books. Red, blue, yellow, brown, green, and orange books made the scenery interesting. To give the effect of books little black marks were daubed on with India ink, to represent the title and publishing company. Children noticed that it would be foolish to print names that could not be read from the back of the assembly and the effect of black spots was even better. Some books were piled at the end of the shelf to make it look like a real bookcase. Sconces were cut for the wall. A simple paper-cutting picture of grass, trees, and sky, with a wide black frame was pinned up over one bookcase and a marine paper-cutting over the other. When the children had their little library table and chairs in front of this scene, it was a real library.

2. Lamp-post Scene

Street scene in England. Night. Color scheme: dark blue, black with bright orange for lights. The background was blue paper dark enough to represent night. On the right was the side of an English house, cut out of black paper. There were windows with orange lights in them. On the left was a black lamp-post with orange lights.

3. Street—Daytime

Simple houses were cut out of green wrapping paper. They had bright red roofs and white trimming. The window boxes had darker green vines and geranium leaves with bright red flowers. Hollyhocks grew by some of the houses. These were made out of circles. Leaves were dark green circles, flowers were red circles growing smaller toward the top of the plant.

Children's Hour—Longfellow

Scene in his library

The same idea was used as for the first library, but it was

not so pretentious as the library of the rich man in the story of Dick Whittington.

Babes in the Wood

Gray bogus paper. White birch trees with black spots on them. Tall black tree trunks.

Pilgrim Scene—Interior

Brown paper. Strips of black paper here and there to represent log interior. Spinning-wheel cut out of paper. Colonial cupboard and chairs.

Christmas Play

Fireplace cut out of red paper pasted on gray bogus. Black lines were made to show bricks. Bright orange paper was pasted under black logs, for fire. Stockings were hung from fireplace. Windows were cut out of white paper. Paper toweling was gathered around them for curtains and a dark blue paper put behind them to represent night outdoors. A shade curtain was pulled halfway down to make it appear more real.

MODELING

There is no medium in the school which provides a better opportunity for children to understand and represent *form* than modeling. The use of plastic clay or plasticine forces the child to think definitely in terms of *form*, and for this reason the modeling lessons should comprise a part of each grade program.

In this grade modeling may be planned in connection with the Fort Dearborn project to furnish Indians, traders, soldiers, dogs, and horses for the fort. If sticks cannot be secured easily for the buildings, logs might be made of clay for this purpose.

In modeling in low relief the figures or objects are slightly raised from a background. Plants, animals, and simple scenes studied in the drawing lessons provide excellent exercises in this form of modeling. The fingers are the only tools needed for this work. On page 150 is shown a jungle animal, the

Courtesy of Elizabeth Hazeltine

Examples of modeling in the round and in low relief

giraffe, modeled in the round; and a squirrel modeled in low relief.

Simple Pottery. Simple pottery bowls, flower holders, paper weights, pin trays, flower pots, and candlesticks may be modeled and when dry they may be painted with colored enamels or with water color, and shellacked. An introduction may be made to the study of pottery and some appreciation developed in respect to its beauty of form. Indian pottery should be studied in this connection and may become a part of the Indian project. Pottery design of the Indian may be discussed and an attempt may be made to paint similar designs on the pieces made in the class. (See the department on Industrial Studies, Vol. III, p. 558.)

APPRECIATION—PICTURE STUDY

Pictures which represent forcefully the topic of out-of-door life have been selected for study in this grade. The purpose behind such a selection is largely to present an opportunity

Engraved especially for THE CLASSROOM TEACHER *by the Art Extension Society of New York*

Joaquin Sorolla

PLATE 52—Two Sisters of Valencia

to interest pupils in the beauty of nature and to impress upon them that through the medium of painting some of this beauty may be transferred to canvas by artists who have real genius.

Two Sisters of Valencia, by Joaquin Sorolla (1863–). Children living near a lake or ocean can put themselves in the place of these children and enjoy themselves for the moment almost as much as if they were really in the water.

The sunlight is very real in this picture. We almost feel the brightness and warmth of sunshine. We might call the children sun bathers for they seem to be enjoying the warm sunshine as much as the water. Note how the older sister has covered her face with her arm to shade her eyes, and how the younger child has turned her head because of the brightness of the sunlight.

Sunlight and color. It requires a very skillful artist to paint sunlight well, and few have ever understood how to do it quite like this artist. Sorolla lives in Spain and loves to paint the beauty of the sunlight and water of his native land. He paints mostly in oil because he can obtain the effect he desires through this medium.

The teacher may call attention to the fact that the brush strokes of the artist can be seen; that many artists paint water with large strokes to make us see how the waves really roll toward shore. She may ask the children if a lake, river, or ocean appears to be the same color all over. If they have never noticed that it does not, perhaps this lesson will teach them to observe the changing beauty of color upon the surface of water. Attention should be directed to the play of sunlight and shadow over the figures, and to the very shiny quality of the wet sand under the children's feet. It seems almost like a looking-glass.

Emphasis. This picture is strong in emphasis as the attention is directed almost wholly to the children, and there is very little to call the attention elsewhere. It is an excellent example of the spirit of youth. The joyful play of the children, the bright pure colors, and the sparkling water all unite to give the picture a vivid feeling of life and action.

TANIS, by Daniel Garber (1880–). This picture appeals to children because of the lovely color. Children who live in the slums of a city love pictures with trees and flowers. They think the child in this picture is indeed fortunate to be in such a beautiful place.

All of the children will be able to appreciate the picture more because of attempts they have made to paint flowers by running the colors together. In painting the flowers the teacher has tried to show them how the leaves may tend toward yellow in some places and toward blue in others. Attention should be called to the plants in the lower right-hand corner and to the vine in the upper corner which show this very plainly. The fact should also be noted that the vines and plants near us are drawn very distinctly while in the distant foliage the colors are mingled together. The teacher has undoubtedly tried to get the children to observe the difference between foreground and background in their pictures. It proves a point much more clearly to little children when they realize that the artist has done some specific thing in a specific way.

Color observation. Children may take turns coming up to the picture and naming all the colors they can see in it. The teacher may explain that there is a great deal of blue, green, and yellow in the picture. She may ask them to show her a place where orange has been used to balance blue. We have learned that blue and orange are complementary colors. This picture has many colors, but the blue and orange group has been given more emphasis than other color groups.

The children will be very much interested in the way the white has been painted with colors. It is really full of colors, yet it seems white. They can be taught to appreciate how the artist has succeeded in painting the thin material of the dress. The children will also be interested to know that Tanis is the artist's daughter, and that she posed for this picture. In the second grade we studied another picture of an artist's daughter.

Perhaps the children can compare the picture with one

Engraved especially for THE CLASSROOM TEACHER *by the Art Extension Society of New York*

Daniel Garber *By permission of the Artist*

PLATE 53—Tanis

painted by artists living a long time ago. Such a comparison leads to a fuller appreciation of the beauty of sunlight in this example of modern painting. "The Herd in Sunshine" by Claus, described in Grade II, may be shown again to help the children appreciate the painting of sunlight. Sunlight is beautiful whether it plays on the foliage of trees, on cows, children, water, snow, or rocks. It gives to everything the color we see. An artist is a person who sees color very perfectly and knows how to put down on canvas the beautiful colors of nature. We may all learn to observe color more perfectly by training our eyes to look for it all about us.

The artist, Daniel Garber, is an American. He knows how to paint landscapes as well as figures and is one of the important painters of America. This picture has received the honor of being awarded the second Altman prize at the National Academy of Design.

SHEPHERDESS, by Henri Lerolle (1848–). Children will be interested in this picture because it represents a beautiful outdoor scene. It will recall incidents of farm life, and the pupils will like to tell what they know about sheep, how they are cared for, and how the wool is sheared from them to make clothing. A girl who tends sheep is called a shepherdess.

Composition. Children like to draw sheep and this picture will help them to draw one animal a little behind another to give the effect of distance. They will notice that there are many sheep in this picture and when the animals are grouped together the details are eliminated by dark shadows. Compare the careful drawing of the sheep in the right-hand corner with those in the flock. Emphasis has been given to the sheep in the foreground, to the trees, and particularly to the shepherdess. She forms the center of interest for the picture.

The children have tried to represent tree trunks in the drawing lessons, particularly for such compositions as Little Red Riding Hood in the forest. This picture will help them a great deal in the study of tree groups. Here is an example of good arrangement which the instructor may make use of in teaching composition. Even little children can appreciate

Lerolle

Plates by the Art Extension Society, Westport, Conn.

PLATE 54—The Shepherdess

Elizabeth Norris

Plates by the Art Extension Society, Westport, Conn.
Copyright by Beard Art Galleries, Minneapolis

PLATE 55—Hiawatha

the fact that the trees are not placed in even rows, that some seem farther away than others, that they are not all the same distance apart, and that some curve or lean slightly. Mention might be made that in landscape gardening trees are planted in this way to give a naturalistic effect.

The artist has used all of these different ways of planning his picture to give variety and interest to it, yet it has unity, i. e., everything in the picture seems to be related.

The painting gives one the feeling of the peace and quiet of the country. If we close our eyes for a moment and think of an elevated train passing over a crowded city street or some similar scene, then open our eyes and look at the picture again we appreciate the skill of an artist who can make us feel so clearly the character of the scene he has painted.

Lerolle is a prominent French artist. His favorite subjects for painting are large airy landscapes with few figures. The "Shepherdess" is a good example of his work.

HIAWATHA, by Elizabeth Norris. This picture fits in nicely with the study of Indian life for this grade. It is a picture loved by all children for the story, because they all like Indians and the great outdoors.

The children who know birds and animals in the woods like the picture because it brings back familiar scenes. In the study of "Hiawatha" in the language lessons this picture makes the whole poem seem more real, for here is Hiawatha. The children know now just how he looks. They can picture him in all the other parts of the poem. "Hiawatha," the picture, and "Hiawatha," the poem, give us the spirit of the Indian and his great love of nature and outdoor life in a vivid and interesting manner.

We may use the picture as an aid in teaching a lesson in composition. It furnishes an example of the point we have been trying to impress upon the children, namely—make one person or object in a picture large and do not fill the picture with too many disconnected things. We may use it to teach figure-drawing. The children may try to copy the figure of Hiawatha. They may clothe the figure in the cos-

tume of a little girl, a boy, an Eskimo, or an Afr'can. We may point out to the children that the birds and other animals are not afraid of Hiawatha and thus introduce a lesson in kindness to animals.

SUITABLE PICTURES FOR GRADE III. The following pictures are closely related to the topics being developed in this grade and are recommended if additional material for picture study is desired. Further information on securing prints is given on page 54.

*** Age of Innocence—Reynolds
** Children of the Sea—Israels
** Spring Dance—Von Stuck
** The Jester—Frans Hals
** St. Cecilia—Carlo Dolci
** Dancing in a Ring—Thoma
** With Grandma—MacEwen
** Angel With Lute—Carpaccio
* Two Sisters of Valencia—Sorolla
* Fairy Tales—Shannon
* The Music Lesson—Terborch
* Child Handel—Dicksee
* The Knitting Lesson—Millet

* Brown-Robertson Co., Inc., 8 E. 49th St., New York, N. Y.
** Art Extension Society, Westport, Conn.
*** May be secured from both companies.

CHAPTER FIVE

SUPPLEMENTARY PROBLEMS FOR ALL GRADES

THE various holidays and special seasonal topics furnish interesting and valuable problems and projects for all the grades. To avoid repetition such topics as Hallowe'en, Thanksgiving, Christmas, Valentine's Day, and Easter have been placed at the end of the primary department on art. Wonderful opportunity for coordination in the work in drawing, design, and construction is furnished by these topics. They offer the finest possible incentive for dramatization, costuming, stage scenery, and various presentations for assembly or morning exercises. Teachers should study the general suggestions under each topic and adapt them to the needs of their grade.

The illustrations in Plate 56, page 161, show examples of special painting lessons motivated by the topics of Christmas, Thanksgiving, and Easter. These were made on 12x18-inch bogus paper with bright colored opaque paints. In one lesson emphasis may be given to free representation, while in another lesson the emphasis may be directed to decorative composition. A poster similar to the Thanksgiving turkey shown in the illustration may be developed in connection with each of the special topics. If all children in the class are permitted to choose any topic they desire for a holiday illustration the variety of original productions will be most gratifying.

HALLOWE'EN

CHILDREN consider Hallowe'en as one of the best days of the year. Many schools give an entire afternoon to the observance of this occasion. We may celebrate it in many ways.

The most usual program, of course, is the costume party with "spooky" games, and apples and other appropriate things to eat. The children like to dress up as witches and ghosts. The party provides a fine opportunity to teach something of effective room decoration for special occasions. The children will, of course, carve jack-o'-lanterns and cut paper witches, cats, owls, moons, etc., for wall and curtain ornaments. They will bring corn shocks and autumn fruit for decorations, and they will want to make paper lanterns, favors, place cards, or dance programs.

A good game for the party which is much liked by the children throughout the country is that of pinning the tail on the donkey. Instead of buying a donkey already printed on cloth here is a splendid chance to give some child the opportunity to draw it free-hand on a large scale. Other games of this sort require some drawing and planning to make the illustration large enough. For example, some one may make a large jack-o'-lantern out of orange paper and paste it on black paper. White paper may be cut to represent teeth and blindfolded children may try to place these in the jack-o'-lantern's mouth.

Masks representing faces of cats and witches may be made of black construction paper. Narrow pieces of paper may be pasted on to these faces to make them fit on the child's head or they may be tied with string or ribbon. Tall witch hats may be rolled out of black construction paper. On these may be pasted bright orange jack-o'-lantern faces to make them more decorative.

One of the art assets of this day is the splendid opportunity the subject gives children for original work. They may be given strips of orange crêpe paper and asked to see who can make the best cap for a favor to be given to the guests from a neighboring grade whom they are inviting to the party. Little candy boxes and favors may be made for each child. The boxes may be constructed on the sixteen-fold out of black or orange paper. Plates 60 and 61, pages 168 and 169, give suggestions for this work. Original designs and trim-

ming for the boxes may be added with colored crayons or cut-paper designs may be used.

To give the party a more festive appearance simple little sleeve-bands or neckties may be made. They take very little material and make each child feel dressed up for the occasion. A cat, bat, or funny pumpkin face with slits in it and a narrow strip of paper run through the slits for a band will provide an effective sleeve ornament.

In all of this work emphasis is placed upon the grotesque, and this appeals to the children. Hallowe'en should be a time of fun and merrymaking.

THANKSGIVING

IN THE United States this holiday is set apart by the President as an annual festival of thanksgiving for the year's blessings. Most children think of it as a time for turkey, cranberries, pies, and cakes. In the schools we say a great deal about the Pilgrims and about early incidents of American history.

Pupils in the primary grades cannot grasp much of the history of the Pilgrims, but their attention during this season will be called to them continually—in Sunday school, in the stores, and in the movies. They will want to make illustrations with Pilgrim and Thanksgiving themes. Children like to know how the Pilgrims came to America in the "Mayflower," how long it took them to cross the stormy ocean, and how thankful they were when finally they landed safely in America. The story of the first Thanksgiving Day celebration with the Indian guests appeals to the children and they will want to make imaginative drawings of these scenes.

In the first grade Thanksgiving problems may be correlated with the farm project and a special study of the fruit and vegetables of the harvest may be made. In the second grade considerable time may be given to drawing the turkey and to the making of Thanksgiving posters.

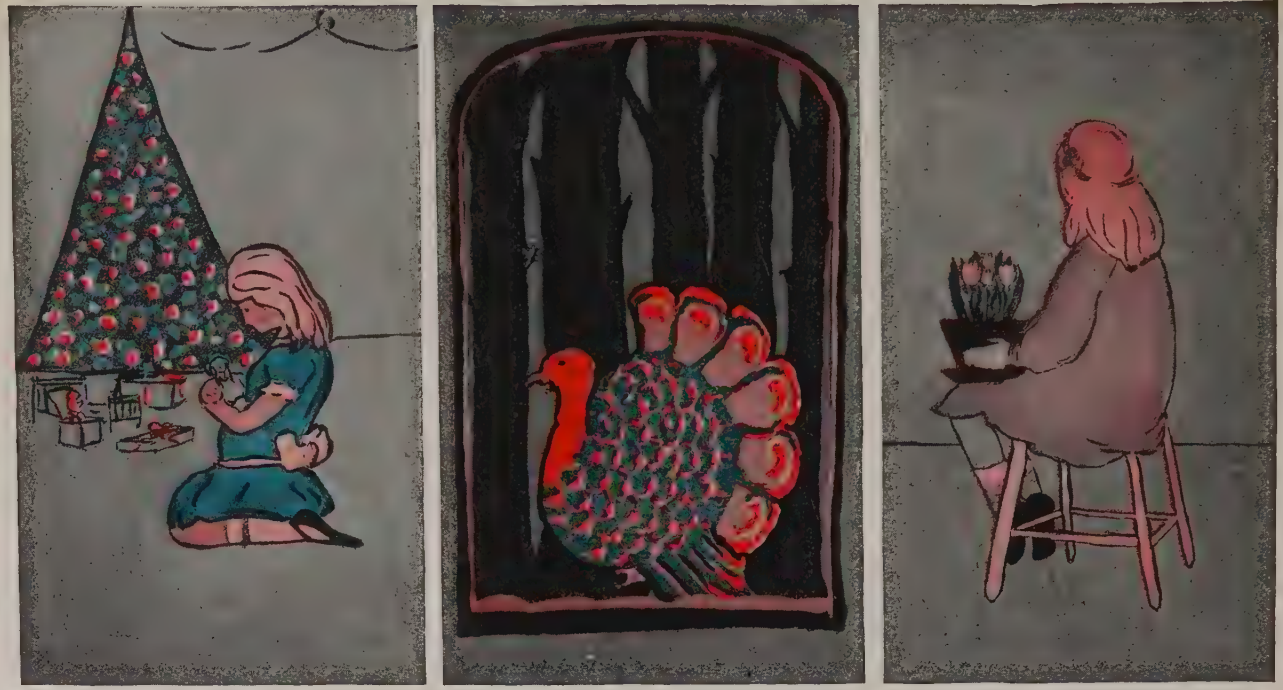


PLATE 56. Special painting lessons motivated by the topics of Christmas, Thanksgiving, and Easter. Holiday enthusiasm usually gives added interest to poster work

The third-graders can grasp a little more history. They enjoy learning the names of Squanto and Samoset. Their previous Indian drawing has given them power to express themselves in stories of Pilgrims and Indians. Simple stick figures may be drawn and these may be dressed with appropriate costumes of the Pilgrims and Indians after the children have consulted history books for data. In the intermediate-grade Art section in the chapter on Grade V, many Indian and colonial figures are shown.

Costumes. Costumes may be made for a school assembly. White crêpe-paper collar and cuff sets may be cut out and pinned on the boys to make them look like Pilgrims. The girls may bring pieces of old lace curtains and dresses belonging to their mothers or elder sisters to help with their clothing. Dressed in these simple costumes they can impersonate the Pilgrims. The Indian suits made for the Indian project (see Chap. IV, p. 112) may be used here again for dramatizing Indian and Pilgrim stories.

Simple paper-cutting of Indians and Pilgrims furnishes a change from drawing and painting and helps to keep up the interest. It serves as a valuable medium to prepare for later poster work.

A Thanksgiving party may be planned and decorations, favors, and place cards will be needed. Attractive place cards may be painted, using turkeys, baskets of fruit, log houses, Pilgrim and Indian heads, and the "Mayflower." Special room decorations for the Thanksgiving season offer an excellent problem for group activity and cooperative effort.

CHRISTMAS

IS THERE any day in the year which means so much to us as Christmas? We can afford to start our Christmas work in school long before the day arrives, for we have such excellent opportunities to teach design, color, illustration, composition, animal-drawing, figure-drawing, and appreciation.

One needs only to step into the schoolroom at Christmas

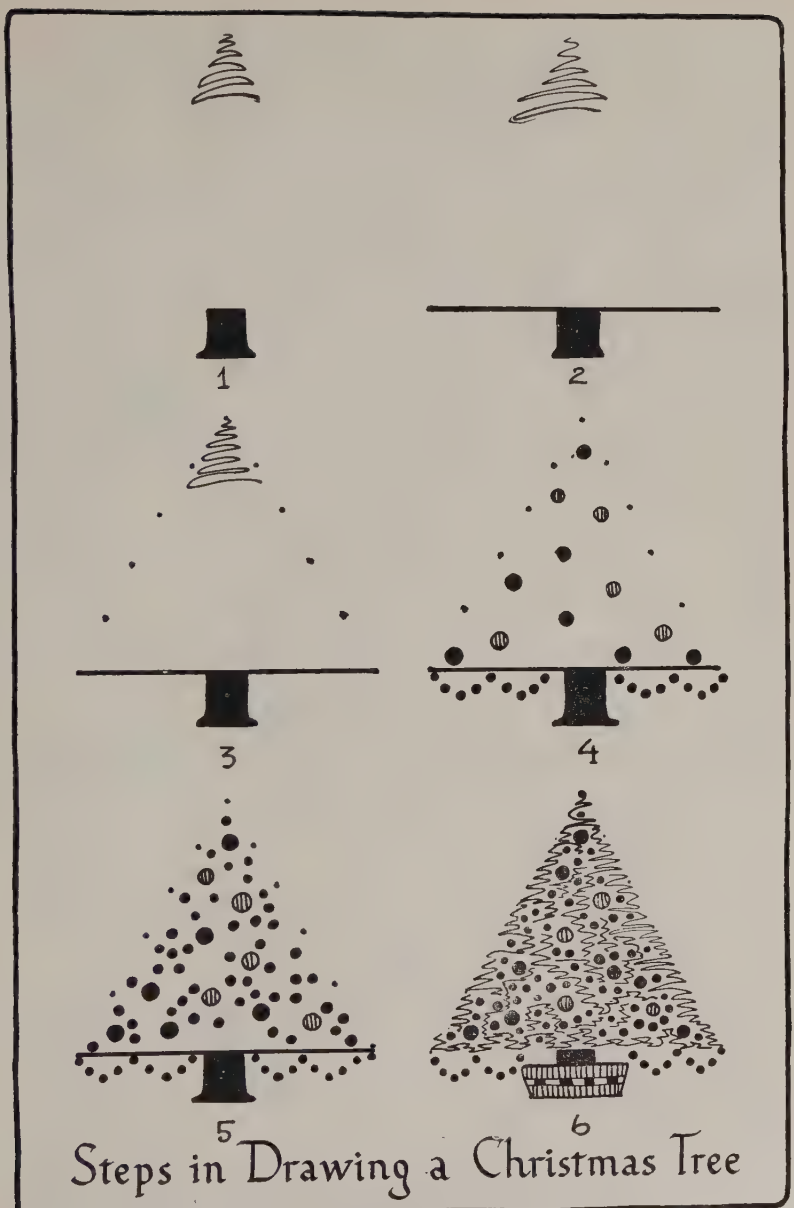


PLATE 57

time to see the desire for illustration. Santa Claus' workshop, his reindeer, his animal friends at the North Pole, his palace covered with ice, or his house made of icicles are common subjects for illustration. Children greatly enjoy drawing the fireplace and blazing fire. We may show them when using crayons how to make the fire appear bright by coloring it orange with a little red in it. We can show them good fireplace designs and thus work in some appreciation of the fireplace as an ornamental feature of the home.

Very definite points in composition may be taught in illustrating the story of the Three Wise Men. We may draw a very large camel and put two smaller camels in the distance. We may draw a palm tree as large as the paper will hold and put three small camels in the background, or one large camel may be lying under the tree with the others in the distance. Here we may teach the children that it is a good plan to make the picture with the tall tree the long way of the paper, because this seems to suit the shape of the tree. Again we may draw a man as large as the paper will hold and then put in some scenery. The children will have learned by this time that many pictures have one large thing in them.

We can help the least original children by some lessons which seem formal but which will bring results in originality. For example, the method of drawing the following pictures may be dictated.

1. Three camels all going the same way, following the star.
2. Three camels lying down. Three men standing near.
3. Two men talking to each other.
4. Three men walking beside their camels.

In these pictures the trees may be arranged in different ways. After this has been taught, all children will make pictures which are very original in color and arrangement.

How to Draw and Paint Christmas Trees. Children love to draw and paint Christmas trees. In drawing them it is important to sketch the tree in pencil and then draw all of the trimmings first and color the tree in between them. This makes the trimmings much brighter than would be the case

Place the two pieces on top of each other.

Fold them down the center. When the child begins to cut he must be careful to start on the open side. Unfold.

Paste over the one half of one tree. Fit it on to half of the other tree. The stand may be covered with red paper.

How to Make a Christmas Tree that Stands

if they were put on top of a green tree. Leaving a little light space of paper around some of the bright balls and other ornaments helps to give the tree an illuminated look. It also saves time to put on all of the red trimming, then all of the blue, all of the yellow, and all of the orange so as not to change crayons so many times. Steps in drawing the Christmas tree by this method are given in Plate 57, page 163.

In painting Christmas trees, if the children are using transparent water colors it is best to follow the same plan they have used with crayons, namely, that of painting the trimming and then putting the green in last. On the other hand, in the grades using opaque paints it is best to paint the tree green all over and then add the trimmings. By mixing Chinese white with the ordinary colors, opaque paints may be made for this purpose.

In an old-fashioned flower garden there are many flowers of many hues but they all look beautiful together. The green leaves and grass make them harmonize because there is much more green than any other color. In painting Christmas trees the children can use all colors and silver and gold, and the result will be harmonious because the green predominates and balances the brighter colors.

Christmas trees furnish an excellent motif for design, and many decorative units may be made from trees for various purposes during the holiday season. Favors and table decorations may be made by cutting trees out of paper. These may be cut free-hand on a single fold. By cutting out little pieces here and there for decorative effects the children get a chance to experiment in design. Often there is a need for trees that will stand. By cutting two trees and pasting them together, as shown in Plate 58, page 165, attractive table ornaments may be made.

When children are drawing or cutting Christmas trees, they want to know how to make a five-pointed star, chains, bells, and other ornaments for the tree. Methods for drawing these objects are given in Plate 59.

Construction Work. During the Christmas season there

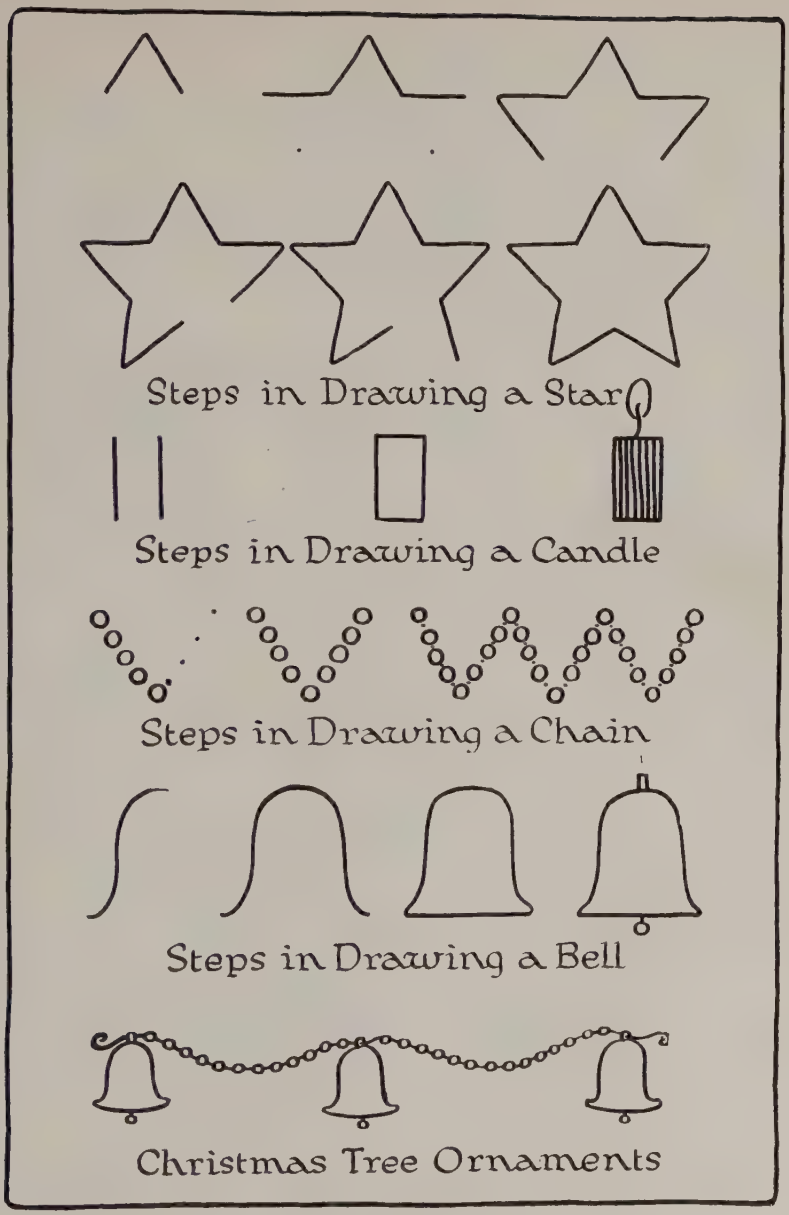

Steps in Drawing a Star
Steps in Drawing a Candle
Steps in Drawing a Chain
Steps in Drawing a Bell
Christmas Tree Ornaments

PLATE 59

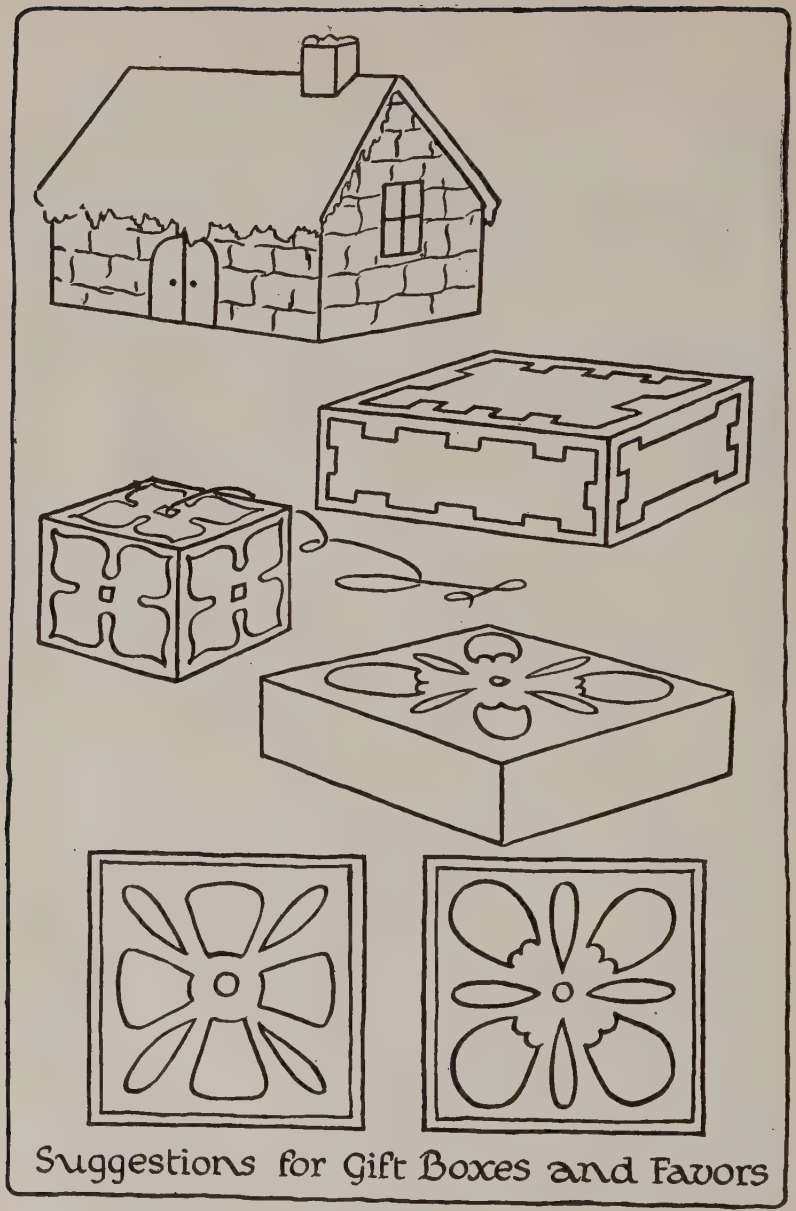
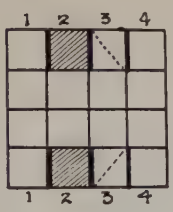


PLATE 61



To Make a Christmas House Favor

Fold a square of paper (about 9"x9") into sixteen squares as shown in the diagram.

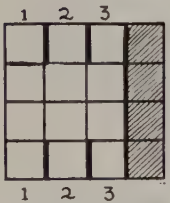
Cut on the heavy lines.

Fit squares 3 on squares 2 and paste to make the peak of the house.

Paste squares 1 and 4 on squares 3 as far up as the dotted line.

Use white paper to represent snow on the roof.

Add a chimney of red paper and paint the doors and windows.



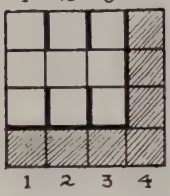
To Make a Rectangular Box

Fold a square of paper as above.

Cut off four squares indicated by the shaded portion of diagram.

Cut on short heavy lines.

Fit squares 1 and 3 on squares 2 and paste



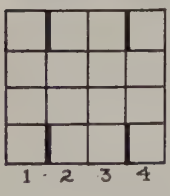
To Make a Cube Box

Take a square of paper as above.

Cut off squares indicated by the shaded portion of the diagram.

Cut on the short heavy lines.

Fit squares 1 and 3 on squares 2 and paste.



To Make a Box Square on Top

Fold a square of paper into 16 squares as before.

Cut on heavy lines as indicated on the diagram.

Fold squares 1 and 4 inside so that 4 fits inside of 3 and 1 fits inside of 2 and paste.

To Make Inside Boxes for Square and Rectangular Shapes

Use a square slightly smaller for the inside box (8¾"x8¾") or cut off one-fourth inch from the top and from one side of the nine inch square before beginning to fold.

Proceed in each case as for the outside box.

The resulting form will fit inside if carefully made.

Christmas Sixteen Fold Work

is always an urge for construction work. We want to send candy boxes to the Cripples' Hospital, the Children's Home, or to certain families. The children want to make tiny boxes for favors at parties. Part of the time may be spent in letting the children experiment, folding very originally shaped boxes and baskets. More will be accomplished, however, if the method of making the boxes is dictated by the teacher, using the sixteen-fold. The originality can come in the design. For instance, a cube box may be made out of red paper. The children may be given gray bogus paper for trimming. The teacher may ask them to cut gray squares, one for each side and one for the top of the box. She may then fold three or four of these squares and cut design units to illustrate the method or, better still, she may complete several boxes to show how designs can be added to make them attractive. When these gray squares are pasted on the red, the result will be very pleasing. In a class of many children there will be many interesting designs. In the rectangular boxes we can teach the children to make the design conform to the shape of the box. Plate 60 outlines the details for constructing different kinds of boxes using the sixteen-fold method. Plate 61 shows Christmas gift boxes and favors resulting from this method. A "Christmas House favor," string boxes, cubes, and rectangular boxes may be used.

Christmas Folders. Plate 62 illustrates a problem in Christmas folders. The children usually write about Christmas in their language courses and illustrate the compositions with little Christmas units at the top and bottom of the paper or along the sides of the pages. They will need a cover or folder to hold this work. The folders may be made out of bright red or green construction paper and letters and ornaments of neutral gray may be added. These booklets will not receive hard usage so the paper-cut letters and decorations will be satisfactory. Paper-cutting of letters is excellent practice, for the letters may be moved around freely in different ways until the spacing and grouping is satisfactory.

The Christmas season furnishes a wealth of material for

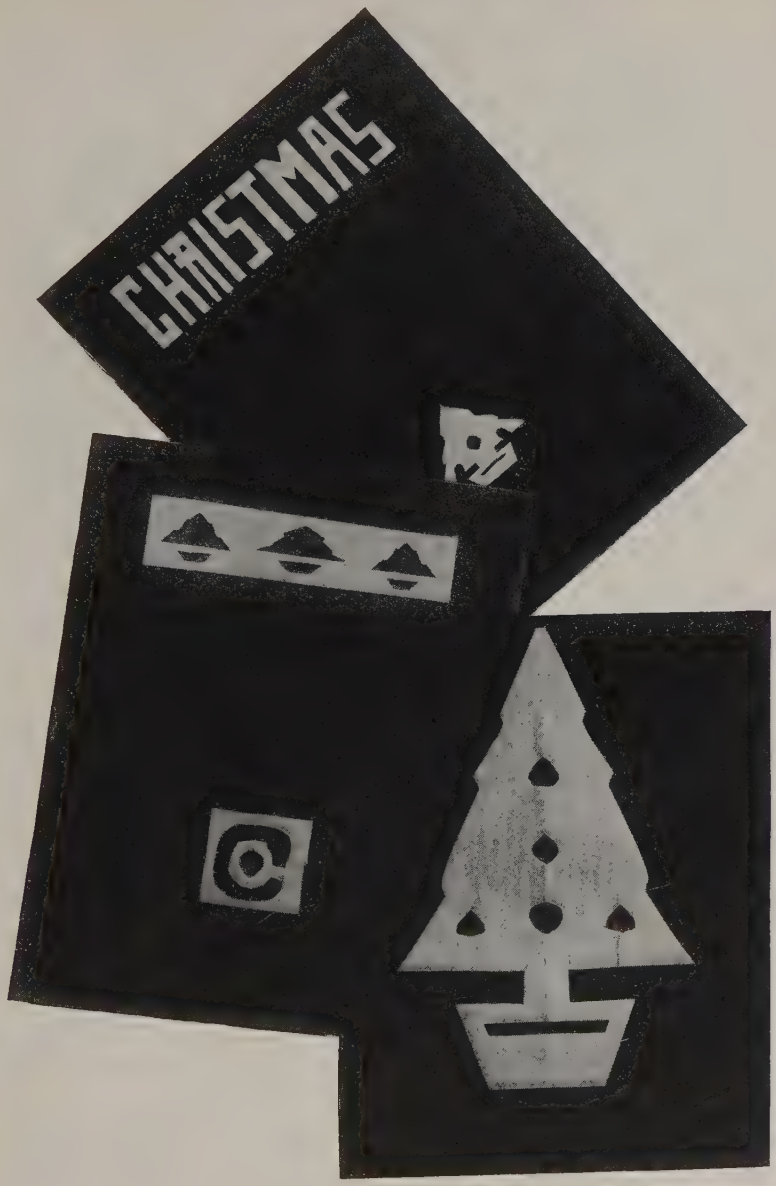


PLATE 62. Christmas folders with cut-paper ornaments

art work. Greeting cards, Christmas mottoes, posters, costumes, stage scenery, and special room decorations are only a few of the possibilities.

MADONNA OF THE CHAIR, by Raphael Sanzio (1483–1520). At Christmas time we have an opportunity to study Madonna pictures, for we would surely miss the meaning of Christmas if we did not teach that it was Christ's birthday. The Madonna, by Raphael, combines the spirit of Christmas with the beauty of a masterpiece. Even though Raphael lived a very long time ago, he is still considered one of the four greatest painters of Italy.

The picture may be placed in the room several days before a lesson is given. Some child may ask, "Whose baby is that in the picture? We have a baby at home," or "What are the names of the children in the picture?" Any remarks the children make will open the way for a lesson devoted to the picture.

An interesting story. There is a story about this picture which is of great interest to children. The mother was sitting out on the porch of her house holding the baby in her arms. The older boy came running to show her a stick a workman had carved into a cross. Do you see the cross in the picture? Just at this moment the great artist, Raphael, was passing by. When he saw the children and their mother he was greatly impressed with the scene and wanted to paint their picture, but he had no paints with him. He found a piece of charcoal and an empty barrel. He drew the picture on the end of the barrel with charcoal. See how round the picture is. He took the drawing home and in his studio was inspired to paint the picture of Jesus, His Mother, Mary, and St. John. This picture is called the "Madonna della Sedia," or the "Madonna of the Chair," because the mother is seated in a chair. Raphael painted more than forty Madonnas, but this one is considered to be the most beautiful.

Fine arrangement or design. This picture is particularly strong in composition. Every detail seems to be in harmony. The children will be interested to have the teacher point

Engraved especially for THE CLASSROOM TEACHER *by the Art Extension Society of New York*

Raphael

PLATE 63—Madonna of the Chair

out to them how the different lines and forms of the composition are related to the inclosing line, or circle, which forms the contour of the picture. The space filling and arrangement within the circle is one of the great things about the picture. It is a remarkable example of the treatment of a subject within a circular form. The pupils have learned in their design work that units should be in agreement with the shape in which they are placed and this rule applies to pictures. The containing line or frame is very important in respect to the arrangement.

The colors red, yellow, and blue are more prominent than other colors used by the artist; hence the picture gives us the impression of the red-blue-yellow triad. The colors and the light and dark parts form a very pleasing pattern. Emphasis is given to the figures by the use of bright colors and the contrast of the colors upon a very dark background.

Children everywhere enjoy this picture not only for its story and association with Christmas, but for its simple beauty of color and arrangement. Few pictures possess the beauty of facial expression shown in this group. The artist clearly tells the story of mother love, and the adoration of John for the Christ Child.

VALENTINE'S DAY

THE red heart means Valentine's Day and Valentine's Day means a red heart, but we do not need to trace red hearts and let them be our valentines. A few suggestions from the teacher will give the children a wonderful chance for originality. Trees may be made with red heart leaves. Children in the grade may be dressed for a valentine party. This will give them a chance for design. The white crêpe-paper skirt could have a border of red hearts, all the same size or alternating large and small or three different sizes. One heart could be right side up, another wrong side up and thus a new border design would result. Favor fans can be made of red and white hearts. Sleeve-bands may be made consisting of red

hearts with smaller white hearts pasted on them. The children like to make crêpe-paper aprons and caps for parties.

After the children have made what they can with the established symbol of Valentine's Day, the red heart, the wise teacher will show them how to make other valentines. We have seen many clever jointed doll valentines in the stores. The teacher who buys some of the most up-to-date valentines to show her pupils is wise indeed. They will then make some even more original ones. They love to see valentines that are surprises. Valentine's Day is a day on which to give a present to some one whom we love. Children may make a little ribbon flower, wrap it in a lovely yellow or violet box which they have made, wrap this box in still another and so on, so that grandmother will have a surprise. Another thing they like to do is to make a valentine box for their little brothers or sisters. In this box they may put a dozen little surprise packages. Perhaps one has a little doll with a button head, another a big chocolate, another a little picture cut out of a magazine and framed with tin foil. They will think of many different things. Lollypops may be dressed like funny valentines. Open-work paper doilies help to make the old-fashioned lacy valentines which even our modern children enjoy. Colored portions of advertisements in magazines furnish good sources for little pieces of color for trimming.

Valentine's Day affords another good opportunity for design and paper-box construction. Many of the problems already suggested may be adapted for valentine problems if time will permit.

EASTER

EVERYTHING around us suggests new life at this time of the year. The birds are returning from their winter homes. The new little leaves are seen. In many schools we have the mother hen with her little yellow chicks, and the white Easter rabbit. Some children even more fortunate own some

little chicks in their barns. The tulips and daffodils are putting their heads up through the cold earth. It is Easter.

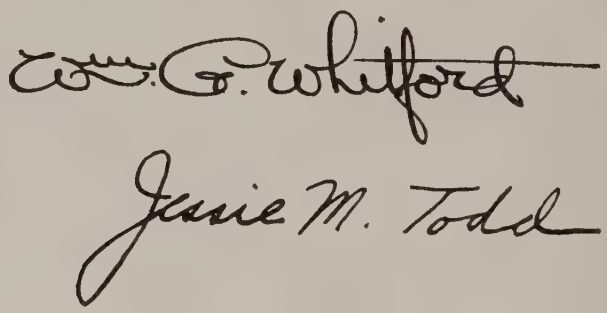
Painting Flowers. We have a splendid opportunity here to teach the children how to paint flowers, for the spring flowers are very decided in shape. The simplest flower for even a first-grader to draw is a yellow tulip. The whole tulip, leaves and flower, may be painted yellow. Then the child may put some blue paint on top of the yellow stem and leaves. He will then have a yellow tulip. He will have learned that yellow and blue make green. Then he can make a red tulip. A purple hyacinth may be made by putting blue on first, then dropping into the blue a little red. Here the child has learned that red and blue make violet. He will learn something of plant life, how leaves are shaped differently, how colors are blended, how beautiful the lines and curves are, and something of the fine proportions of flowers.

Easter time provides a natural interest in nature and we should take advantage of this to stimulate keener observation of the beauty around us everywhere. At Easter we have an opportunity to teach animal- and bird-drawing in a very simple and direct way. Little yellow chickens, little ducks, and rabbits are very easy to draw and greatly delight the children. The duck may be modeled out of clay and painted white with enamel paint. His bill may be colored and an attractive little paper weight will be the result. The rabbit may also be modeled and painted in a similar way. Figure-drawing and color-illustration may receive new interest at Easter. We can teach design by applying the drawing of the flowers, figures, and animals to a simple stencil which can be used for new curtains, often necessary in the spring. In some schools the children ask to make Easter cards. Invitations to mothers' meetings or programs at this time of year may have a little flower or chicken design on them.

A short time before Easter the children like to model a low vase out of clay for bulbs. This may be baked and glazed if there is a pottery kiln in the school or it may be painted and shellacked with fairly satisfactory results. At Easter the

bulbs are in bloom and how wonderful it is to see them in full flower after you have watched them grow!

Primary teachers may secure further suggestions from the intermediate section if desired, particularly in respect to patriotic holidays, such as Washington's and Lincoln's birthdays (Grade V), and other topics not discussed in the primary section.



PRIMARY MUSIC

By

MARY ROOT KERN
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The University of Chicago

PRIMARY MUSIC

CHAPTER ONE

THE CHILD VOICE

A DIRECTOR of music in the public schools of New York who had large opportunity to observe the possibilities of the child voice and who has left us a handbook containing the fruit of his observation says, "Rightly used, the child voice is the most beautiful of musical instruments." And further, "Musically, the powers of the child are limited only by the ability of the teacher to suggest, to direct, and to inspire." This puts the burden of proof upon the teacher, and would be discouraging were it not so inspiring. The thought that Fate has put in our hands the material capable of playing so important a rôle in the world of beauty, and that we may mold and fashion it, rouse its dormant energies, and send it on into life an uplifting influence, spurs us to fit ourselves humbly and conscientiously for our task. There are many pitfalls along the road as there always will be in seeking an ascending path for an army of children with endless variety of gifts, tastes, emotions, environments, and experiences. But certain signposts have been erected by those who have achieved, and with true altruism they point these out to the novice who is entering the path, giving such aid as is deemed most helpful along the way.

The ideal qualifications of a teacher of children are:

1. Knowledge of the subject.
2. Enthusiasm for the subject.
3. Enthusiasm for boys and girls.
4. Patience, tact, sympathy.
5. Sense of humor.
6. Social intelligence and social habit.
7. Professional training.
8. Ethical standard.

Obviously it is desirable in music, as in all other subjects used in the education of the child, to plan a logical sequence of problems which shall lead him from the first and simplest on to the more complex, and since his school training begins in the kindergarten it is there that the first step will be taken. The sequence would remain largely the same wherever the work is initiated, but ideally we begin with the four-year-old child in the kindergarten. Even here we are faced with the variety of temperaments, prejudices, and gifts which must guide our choice of method and material throughout the work, and the first to be considered is the shy child who must be reached through tactful indirect approach.

TONE-PLAYS FOR THE SHY CHILD

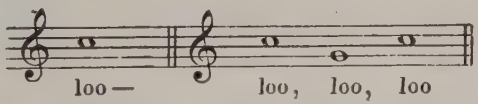
One clever and sympathetic teacher suggested using tone-plays to shorten the period of waiting for this shy child to be so carried out of himself by the charm of a song as voluntarily to join his voice to the chorus. This waiting is sometimes a prolonged process. Impatience on the part of the teacher deepens the self-conscious state.

Tone-plays proved useful in meeting this condition. The children stand in a group and are called upon to imitate various sounds of nature with which they are familiar. No prescribed pitch is used as there are to be no melodic restrictions connected with the activity. Each child makes his imitation as it naturally occurs to him and the composite tone accomplishes the sound of bees around a hive—*z-z-z* in

a low voice; mosquitoes—*z-z-z* in a high voice; *peep, peep* in a tiny voice for little chicks; *mew, mew,* plaintively for baby kittens; *ding, dong,* prolonged in a low voice for a big church bell; *ting, ting,* prolonged in a high voice for the teacher's bell or triangle; *oo-oo-oo,* softly for a summer wind, loudly for a stormy wind; *tick-tock* for the clock; *tchoo-tchoo* for a locomotive; *quee, quee* for little pigs; *spin-n-n* for a humming-top, etc. The composite tone reassures the shy child, who joins in the play and may even bring suggestions for further imitations. This play leads to the specialized work in music, the imitation of given pitches in *tone-matching* being but a step farther in the same game.

ESTABLISHING THE NORMAL SINGING VOICE

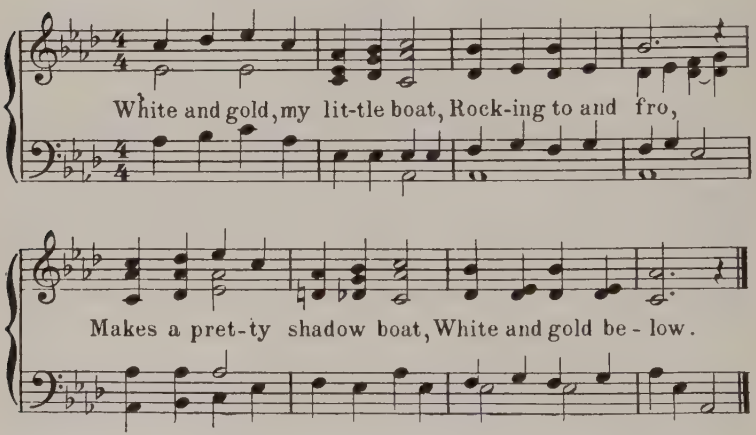
The light, silvery resonance of the child's voice when producing tones above $\overline{C}$ is the quality known as his *normal singing voice.* It is this voice which has awakened the commendatory phrase "the most beautiful of musical instruments," and it is this voice which our methods and material must establish until it becomes habitual. Even in the kindergarten two distinct types of tone may be discerned—the one known as the talking voice, the other as the singing voice. Exercises for tone-matching are given on high rather than on low pitches in order to insure the use of a free and beautiful tone.



The teacher sings and the children imitate her. In approaching a high pitch stepwise from one much lower, a child might strain his chest voice up gradually to this point, but by attacking a high tone at its level, the majority will use the desired quality. To correct a strident tone should it occur, the teacher chooses several children whose tone is sweet to give a model which she can commend. A daily

repetition of this exercise, initiating the singing period, finally impresses the idea that a "sweet" voice is more desirable than a "hard" voice. Through the entire extent of the child's voice range this sweet tone should be present. It is logical therefore that during the work of eliminating the hard chest tone, songs which do not lie in the lower pitches and which do not ascend gradually from low to high should be chosen. Round vowel sounds—*oo*, *oh*, *aw*, *ah*—on initial high pitches insure right usage at the start and tend to cause its continuance. A text of gentle quality helps through quiet suggestion.

The Shadow Boat



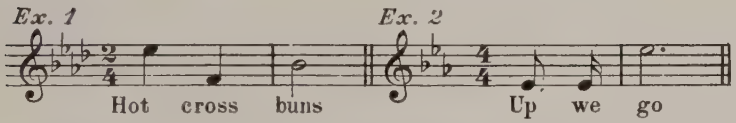
The kindergarten program sometimes requires the gay rollicking song for social and illustrative purposes, and songs of this character naturally tempt the use of force, somewhat retarding the work of establishing the light head tone. But if in the teacher's mind the ideal persists, stress will be placed upon such exercises and songs as will ultimately achieve the desired end.

The children's repertoire should include corrective exercises which may be used in individual work when required. For instance in a song which they are learning a strident voice mars the singing. The work stops. Ann, who uses a

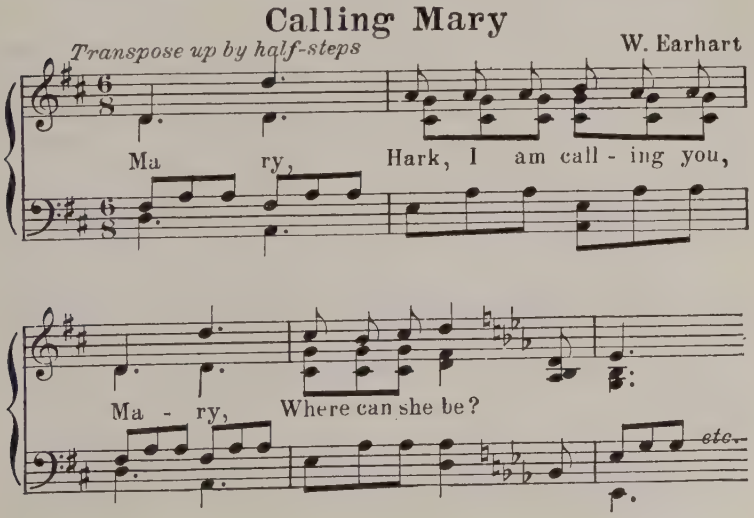
normal tone, is asked to sing "Blow, Wind, Blow" (see p. 187) on the pitches B♭, F, B♭. "Can you sing it still higher? And still higher?" Many individuals offer their help.

Johnny, who has been relapsing into his chest tone, is then chosen to sing it *still higher*. The pitch is now $\overline{E}$, B, $\overline{E}$, and when he complies he inevitably uses his head voice. The class joins him for several repetitions in a sweet, high tone. The purpose of the diversion being accomplished, song-singing is resumed.

Throughout the year it is important to devote two minutes of the lesson to a daily tone-placing exercise, using a phrase which includes pitches that are too high for the reach of chest tones.



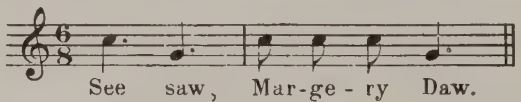
A favorite song for use in this connection may be sung in higher keys until its highest note is $\overline{F}\sharp$.



Hand in hand with the work of establishing a normal singing tone goes the cure of the monotone habit.

MONOTONE CURE

This important and highly interesting feature of school music work is begun in the kindergarten. Much time is saved if an opportunity for stressing it is given at the beginning of the child's education, before self-consciousness raises an almost insurmountable barrier to frank effort. After a time of getting adjusted to his new environment, and many opportunities for tone-plays with their free use of the voice in imitations, a music period is devoted to testing the child's ability to repeat a short phrase sung by the teacher, as



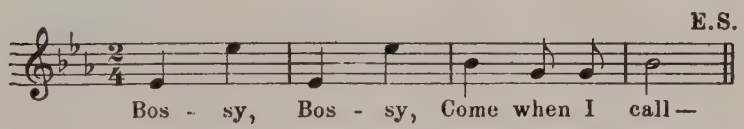
Success or failure in such an imitation decides the grouping of musical and retarded children. For convenience we call the unmusical group monotones, though their voices may be flexible and soar up to unfocused high pitches with ease. The causes of retardation are usually:

1. Immaturity and shyness.
2. Inattention.
3. Lack of muscular control.
4. Unfamiliarity with the act of singing.
5. Use of the hard chest tone.
6. Lack of musical gift.

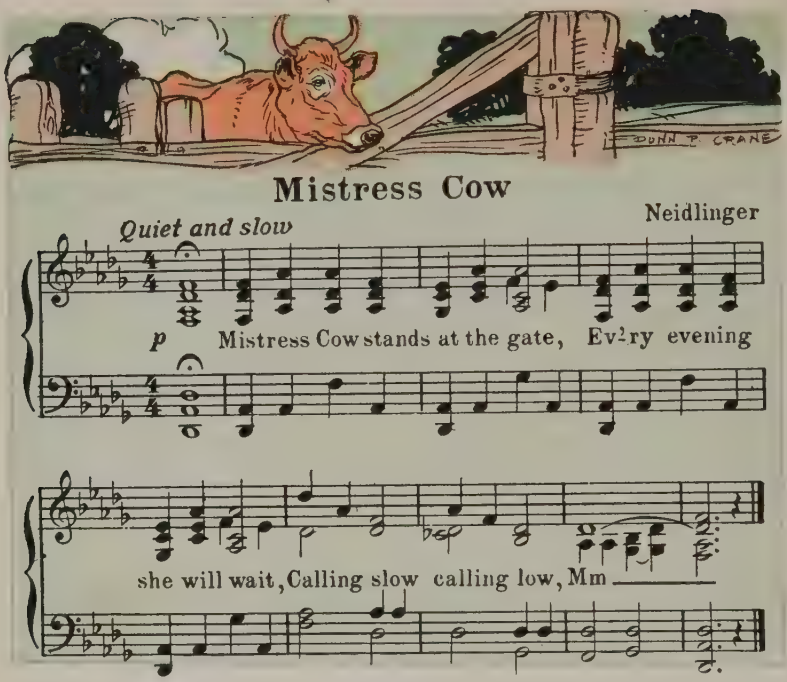
In a class of forty-five kindergarten children, observed for the purposes of this department, there were twenty-seven who appeared retarded in the first test and therefore formed the monotone group. The daily music period of thirty minutes was programmed with literature for the convenience of segregating the monotones for special work. While one group was singing, stories and poems occupied the other. At the end of fifteen minutes the groups were exchanged so that

each music lesson could have the benefit of the piano. In many schools there might be difficulty in arranging for this segregation but the result would justify any necessary effort. There is usually some spot that could be made available for so short a period, and it is essential for obvious reasons that the monotone work be carried on unobserved. Only those in the midst of the problem can fully sympathize with the feeling of interest and optimism aroused.

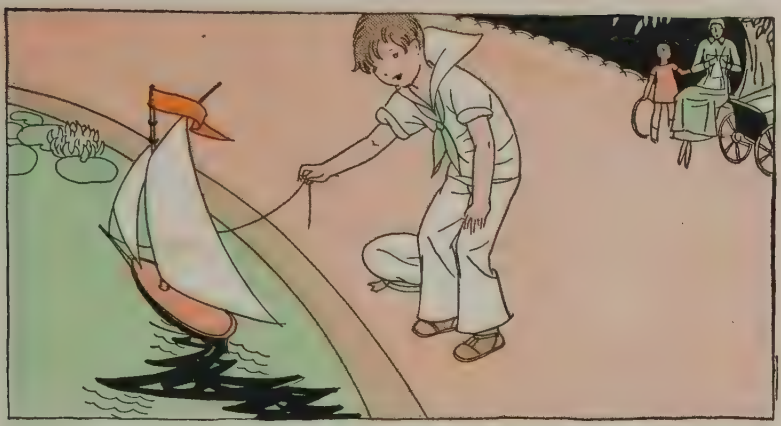
After a few lessons it was evident that six children had been wrongly classified as monotones. As they began to feel at ease they were able to sing in tune and were immediately changed to the other group. The rest were in various stages of inability, and the teacher recognized the fact that her first task was to interest them in the content of her subject. In a few words she gave the picture of a boy sent to bring in the cows, and sang



Individually they called the bossy to the best of their ability. Since the prevalent fault in monotones is using a low talking voice, the child whose voice went up "even too high" was warmly commended. Matching a high tone with *loo* was attempted by individuals. The teacher then sang, to create an atmosphere, the song, "Mistress Cow," given on page 186. Its soothing key, whose initial chord quietly played suggests twilight in the country, its picture of the cow who is "so sure the boy is coming to let down the bars and let her into the farmyard that she doesn't need to call loudly," its slow tempo and simple words appeal to every little child.

It is a mistake to use gay, lively songs to interest the monotone children. It is evident that to many who have no ear for melody, music is merely sound. Absence of noise, and gentle sounds are more appealing than any brilliancy. Inculcating the desirability of pleasant tone leads to an effort to sing

with a high, soft voice. Therefore, exercises and pitches for tone-matching lie above A. Opportunity for quiet listening to the teacher as she gives the model for phrase, exercise, or song is frequently given. Attempts at imitation are chiefly individual. Experimentation has shown that the closest interval which a monotone can hear and sing accurately is a fourth. In the interest of tone-placement, which is the teacher's strongest ally, it is given from a higher to a lower pitch. The highest pitch a child can sing easily is combined with one a fourth lower as B♭, F, B♭ sung with *loo*. This is followed by the same interval sung with words, as *Dong, ding, dong*, or *Blow, wind, blow*, or *Bow, wow, wow, Who's dog art thou?* This is a successful device for gaining accuracy.

The tonic triad may well be used as the next exercise in hearing and singing. Its natural cheerful quality is inspiring and leads the child to make concentrated efforts for accuracy.



Blow, Wind, Blow

M. R. K.

Class *One voice* *Class*

I sail my boat on a ti - ny sea Blow, wind, blow, And

One voice

some day I shall a sail - or be, Blow, blow, blow.

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It is used in descending form, since if the upper tone is achieved the two lower tones will be easily vocalized—$\overline{C}$, A, F sung with *loo*. Phrases with an initial round vowel as *Who are you?* or *Toot, too, too,* or *All aboard!* are valuable. The next step is a wider interval taken from low to high. In this the teacher can draw the children's attention to the difference between their talking tone and their singing tone. The octave skip from low to high E♭ sung with *loo* may be drilled with various phrases as *Up we go! Hel-lo! See-saw. E-cho.*

In the class referred to on page 184 a child who showed any decided improvement was transferred to the musical group, there to listen for a few days and then to join softly in the singing. It was believed that contact with the gifted children would foster his newly awakened tonal sense. From time to time he was there tested, individually or with a few other voices. One device to keep the interest up to a high level among the monotone children was to invite an especially sweet singer from the musical group to stay and sing a few songs. This seemed charming to the listeners, who invariably made an attentive audience. Occasionally the monotones were invited in to sing an antiphon with the musical children, each having a chance to sing a short phrase learned in his class, either individually or with a small group. One of the more successful of these antiphons is "Blow, Wind, Blow," which appears on page 187.

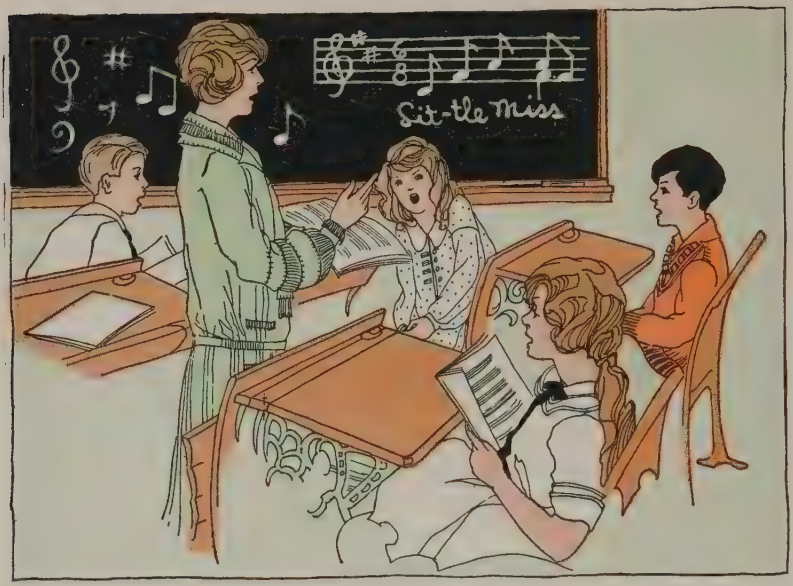
A monotone class should have many opportunities of quiet listening either to the teacher's singing or to her playing of the songs being taught. The antiphonal song gives a logical opportunity for this practice since the child's part in the song is but a short phrase. It is a wise plan to play the whole accompaniment before the children are asked to sing. They soon learn to recognize a song almost immediately upon hearing the first few measures. This combines ear training and music appreciation. It is often proved that a child classed with the monotones through being slow in developing the ability to sing is keenly musical, and on

achieving muscular coordination and proper tone placing becomes one of the leaders in perceiving and responding to the inspiration of beautiful music.

In the class under observation only eight of the original twenty-seven monotones remained at the end of the year and these were sent on into the first grade with a love of singing and an interest in songs, shown by their ardent preferences.

In the first grade, segregation is difficult of accomplishment. If no kindergarten training has been given, fifty per cent of the class would be benefited by the special work designed for retarded children, but in the case cited above much of the cure is already accomplished and general class work in the three primary grades will be sufficient to complete it. The monotones are seated in front close to the teacher, and every singing lesson is begun by a moment's individual work with them. It is well to have a series of figures for repeated imitation. In a normal class these children are to hear music more complicated than their development warrants and they must be given a chance to orient themselves at the outset.

At first these are sung with *loo*. Later when the class has learned to syllabize the scale the *so–fa* syllables are used. Repeated use of these four figures, each sung by an individual and transposed to higher keys as ability increases, not only gives the monotones a point of departure for class work but soon so impresses the normal children that they can sing them on call. In every problem taken up in the work of the first grade—the stressing of rhythm, singing of tone-placing and ear-training exercises, and the learning of songs—the monotones should take part. In finished songs and in those which require special ability, however, they should be silent. It is fair to the gifted children that they have occasional opportunities to sing without handicap; and, furthermore, it is useful to the less able to listen to beautiful tone and to the accurate rendition of a song with which they have become acquainted.



The proof that a monotone learns to think a melody before he can sing it is that he recognizes a familiar tune at the first few measures. The policy of ignoring these children and not allowing them to take part in the class work is shortsighted. They must learn to sing through experimentation under guidance, and all honest effort must be commended. The atmosphere of sympathetic interest which the teacher creates will have much to do with the reaction of the class as a whole.

The material which meets the need of both groups is the antiphonal song containing a phrase adapted to the ability of the individual monotone. These phrases become the special responsibility of each monotone and he daily rehearses his phrase until he can fulfill the task given him. Many of these phrases have already been used for ear-training (see pp. 186, 188), but as an integral part of a song (which the class sings) they become dignified and worthy of much effort.

Three typical antiphons for use in any primary grade where monotones are present follow.

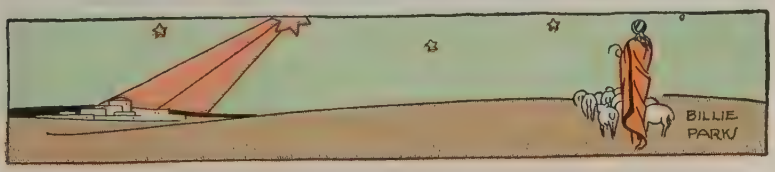
Christmas Bells

One voice *Class* M. R. K.

Ding dong, ding dong, Hear the Christmas bells a - ring-ing,
Ding dong, ding dong, Hear their pleasant voic-es ring-ing,

One voice *Class*

Ding dong, ding dong, Hear the Christ-mas bells.
Ding dong, ding dong, Hear the Christ-mas bells.



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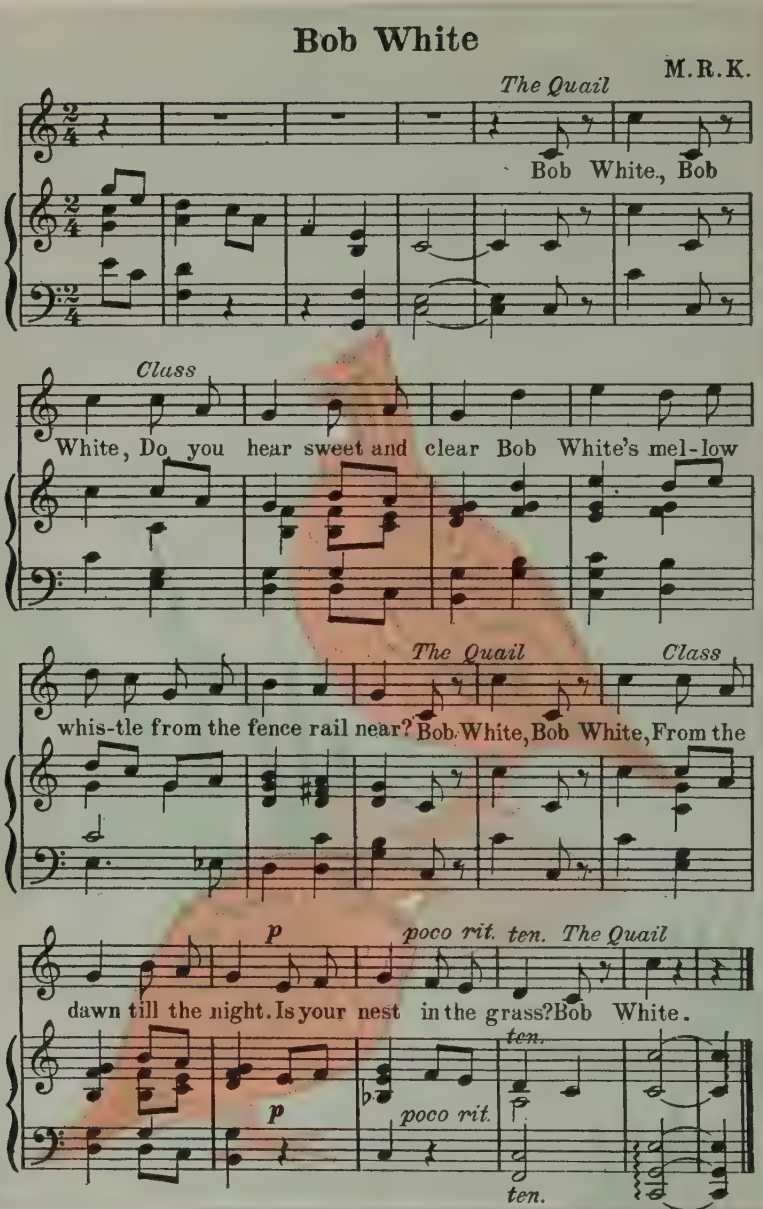
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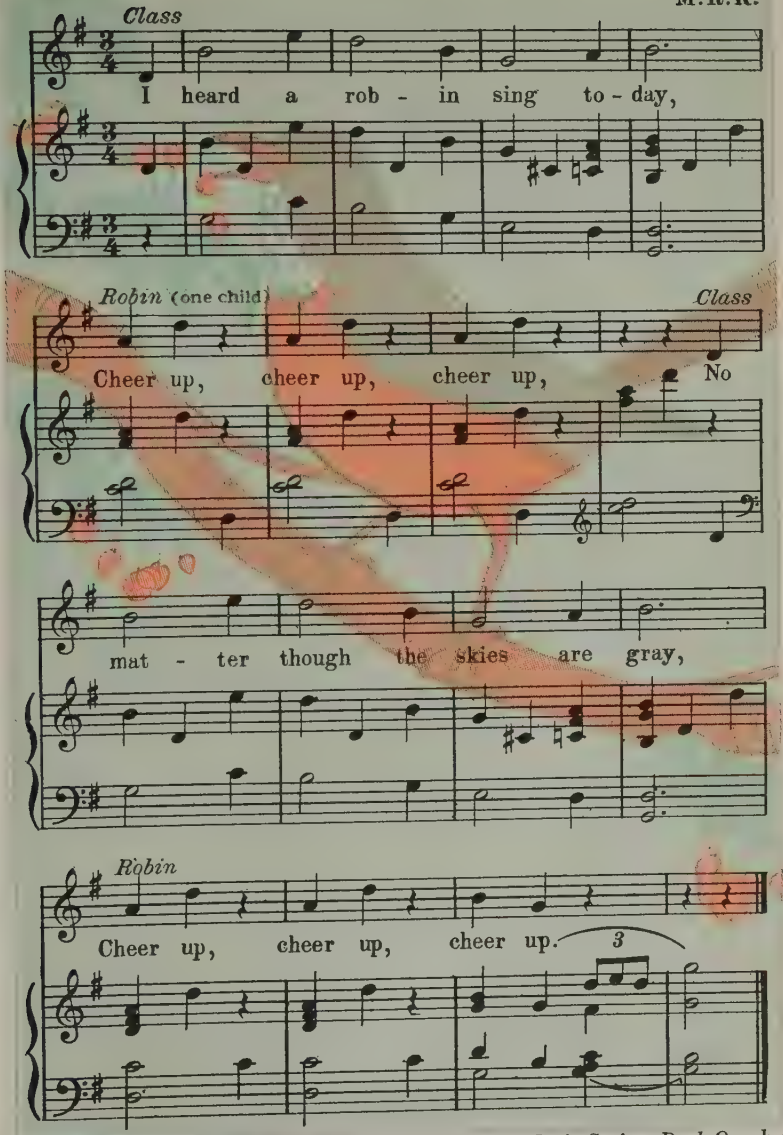
Cheer Up

M.R.K.

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Antiphons of more complex melody are useful in the third grade where there will be a few cases of the monotone habit still persisting. The diagnosis will probably be general retardation or extreme inexpressiveness or nervous tension, etc., causing them to be regarded in some degree as problem cases needing special corrective work. Chronic hoarseness noticeable in speaking does not prevent the development of a high, clear singing tone, as is often proved in the case of foreign children suffering from the process of acclimatization. The most difficult case to correct is that where interest is not aroused and here the psychology of inspiration through public performance stands the teacher in good stead. It is safe to say that every child will be stirred to unusual effort in preparing for an audience, and the hope of being chosen to participate in a selected group brings surprising improvement. True tone deafness is as rare as color blindness and need not be considered as a possibility in an average class. Every phase of education to correct the monotone habit, however, must be built upon the child's awakened interest. Therefore material of variety and charm is chosen for vocal exercises and drills.

The monotone habit may be considered cured for school purposes when every child has become able to sing in tune with the assistance of other voices or instrumental accompaniment. At the close of the third-grade work this has usually been accomplished. Adults who have spent their school life shut out from the normal activity of singing recall the experience as one of mortification and unhappiness, and the sympathetic teacher finds a true enjoyment in watching the gradual emergence from the inhibitions of the monotone habit.

Whippoorwill

M. R. K.

The moon is high a - bove the hill,

Whip-poor-will, Whip-poor-will, Whip-poor-will. The

for - est trees are dark and still,

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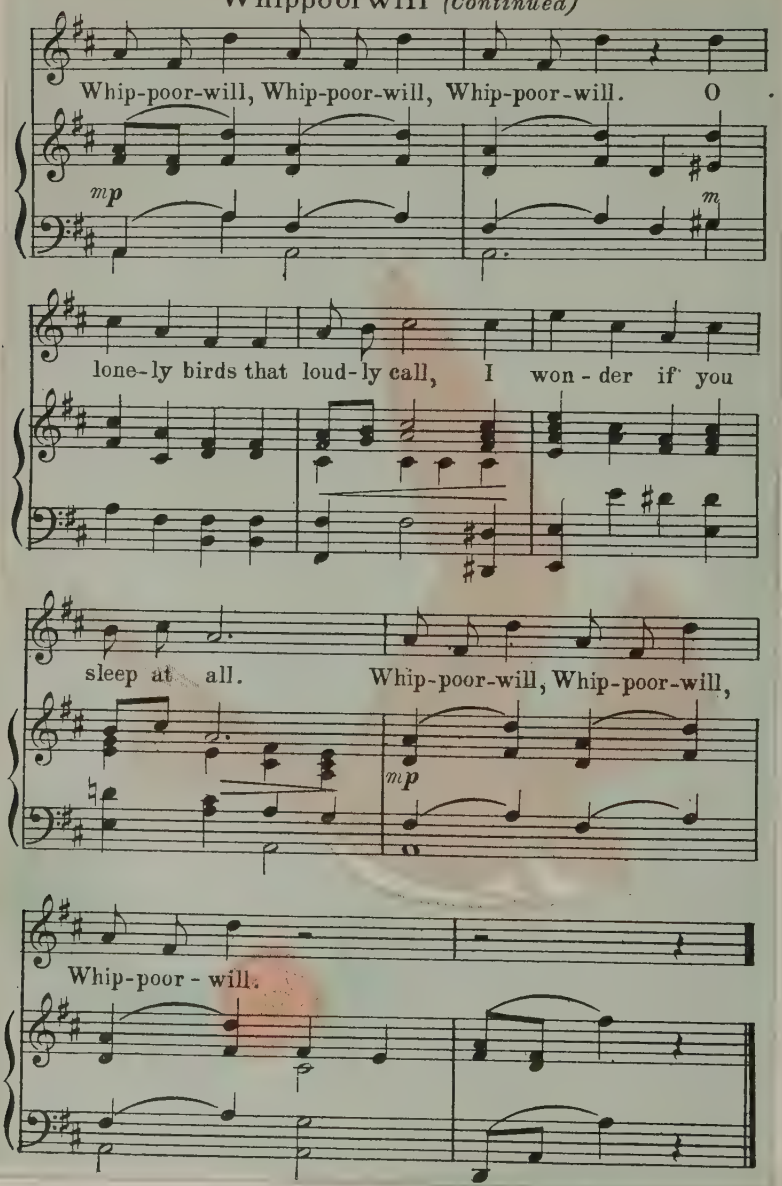
Whippoorwill *(Continued)*



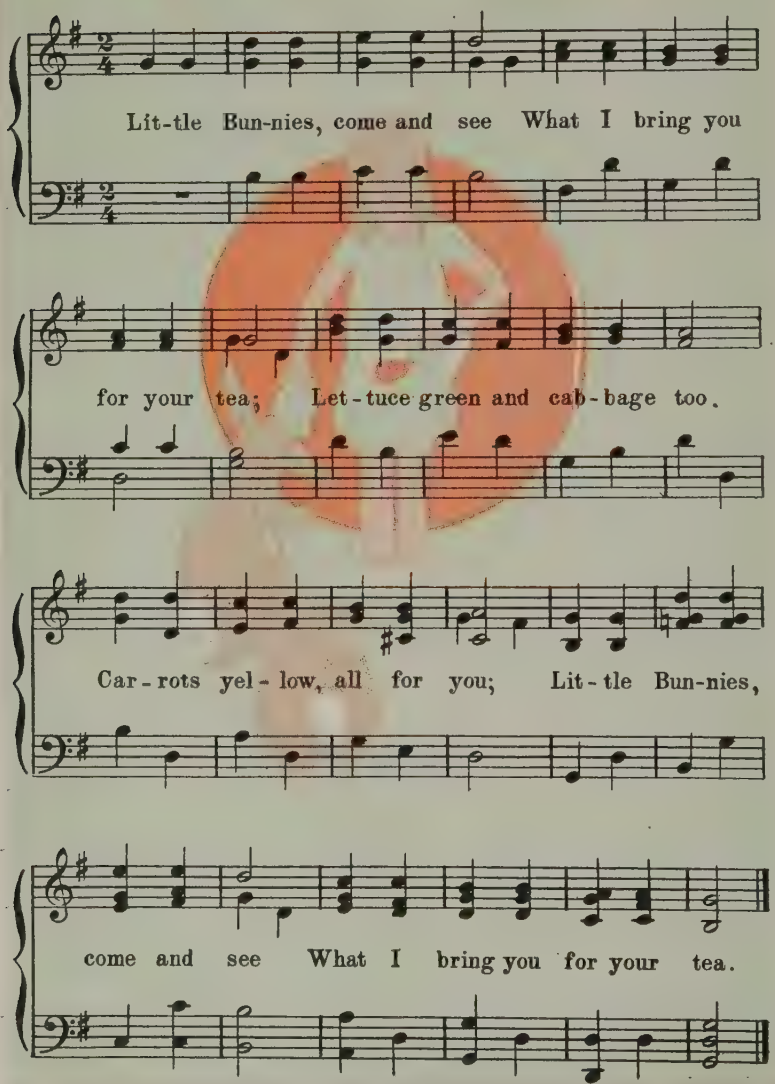
CHAPTER TWO

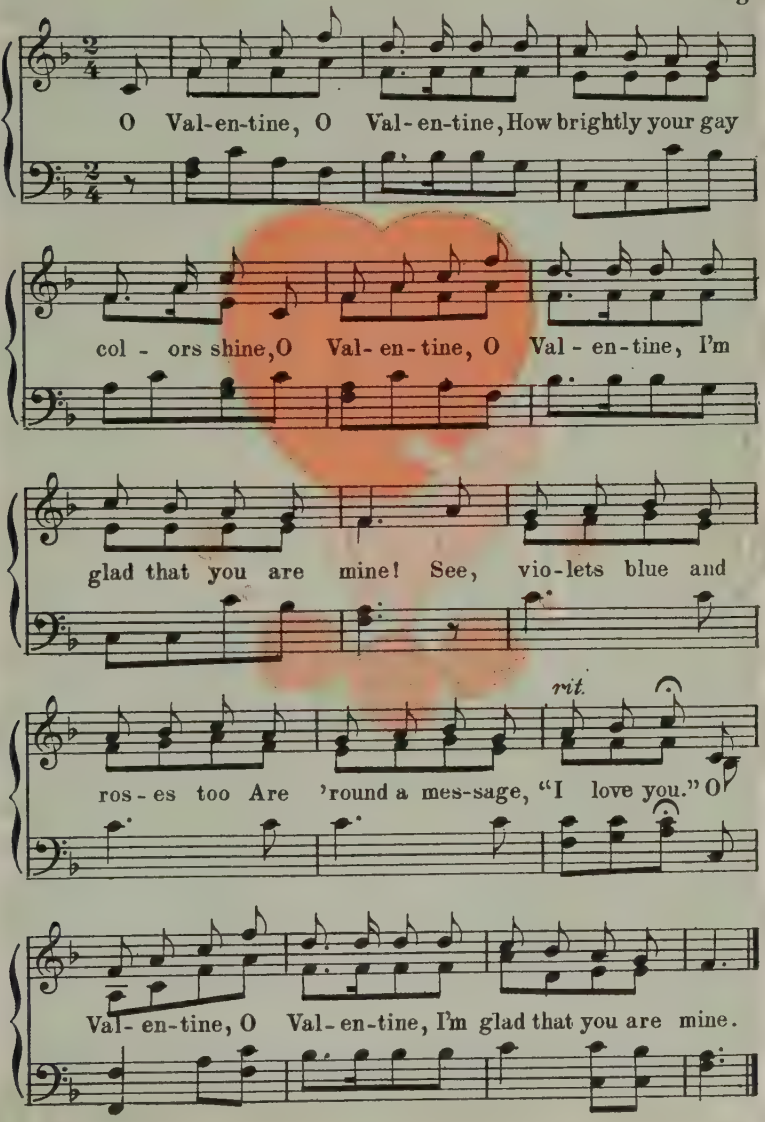
THE ROTE SONG

A ROTE song is one that is learned through hearing and imitation. All songs are learned in this fashion in the kindergarten and first grade, where singing will be charming in proportion to the excellence of song material and of presentation. The model given by the teacher must be the result of careful preparation in all the details which contribute to an artistic performance. For the simple songs taught no special vocal gift is necessary. A large voice is less desirable than one nearer the child-quality. But however simple the material used, the teacher with ideals will beware of giving through haste or carelessness an example failing in those qualities which she desires to instill. Her equipment includes: freedom from mannerisms and artificiality, pronunciation of words with due observance of correct vowel quantities, swift articulation of consonants, phrasing which makes clear the meaning of the text, and such complete mastery of melody and rhythm that she is unhampered in giving forth the song by any conscious thought of its mechanical aspects.

It is undesirable to use the scant time of the music period in more talking and explanation than is absolutely necessary. Little children are apt to take an ell if given an inch in discussion of a topic in which they are interested. Instances and anecdotes pour in from all sides to the dissipation of time and energy. The expert teacher chooses fitting song material and presents it at a time when it explains itself. She introduces the new song by singing it with distinctness and charm, her accompaniment, if a keyboard instrument is present, being light and rhythmic. This is immediately followed by a recitation of the text given with full justice to dramatic values *not lined out* as a sequence of words to be memorized. The text is of first importance to the little child. It should be full

Little Bunnies

Mozart

My Valentine

Folk-Song

of meaning, presenting a definite picture suited to his comprehension. Every effort should be made to have it thoroughly understood at the outset. On hearing the song sung a second time, the more musical children will tentatively join in. This is a signal for beginning its detailed teaching. It is sometimes best to introduce the teaching of a song by having the class sing its highest pitch, or an unusual interval, with a round vowel (*loo*). This tends to forestall difficulties with the less musical children. Songs with but two phrases will be learned rapidly and are best for early work. The method of teaching includes singing a phrase and allowing the children to repeat until accuracy is achieved.

There are three types of material from which the repertoire of a little child should be made. All good child songs fall under one of the three. It is difficult to decide which is most important since each type presents qualities essential to his education. They may be listed under *Folk Songs*, *Songs for Technique*, and *Art Songs*.

THE FOLK SONG

Educators have arrived at a realization of the importance of the folk song as a fundamental factor in child music. Its strength and simplicity, the vitality which has caused it to live when hundreds of its contemporaries have vanished, the intrinsic melodic charm which persists even when divorced from its original text, a certain atmosphere distilled from the enjoyment in years of use, give it a unique place in music. In practice the child responds to it more vigorously than to any other type of melody. The naïve folk song suitable to the needs and accomplishment of little children is largely made up of *repetition*, one phrase exactly repeating another in form and pitch, or of *imitation*, one phrase repeating another in form on higher or lower pitches. Its rhythm is clear, its rhythmic form repetitional. The tonality becomes immediately established, the harmonies being so definitely implied that accompanying chords are not essential. These

melodies linger in the mind and can be sung accurately by the normal child. The use of folk songs creates a desirable morale in the singing class more quickly than can any less fundamental melodies. Occasionally a great writer is inspired to write a tune as inevitable and convincing as those—the genuine folk tunes—which have sprung from a whole people. An example is that legacy from the art of Mozart which —translated into every European tongue and found in the alphabet song for little Germans and in the

Ah, vous dirai-je maman
Ce que cause mon tourment,

of the little French—will be sung as long as there are babies in nurseries.

In the *Congdon Music Reader, Number Two*, with the unerring flair for sympathetic child texts contained in Congdon Readers[1] we find a delightful version beloved by first-grade children.

Santa Claus at Christmas comes
With a pack upon his back
Full of soldiers, trumpets, drums,
Talking dolls and ducks that quack.
All this load of pretty toys
Every one he gives away
To his little girls and boys
On the eve of Christmas day.

For the kindergarten we have a still simpler version, "Little Bunnies," which appears on page 198.

With the recognition of the value of the folk song, many have been arranged for use with young children. Since the thought is of such vital importance in the early work, verses must not only fit the melody rhythmically but must convey clearly an interesting idea. False accents are said to occur where the accent of the text fails to coincide with the accent of the measure-rhythm. No folk song would have lived to take its place in musical literature were its text marred by false accents. The translations and original poems which

[1] *The Congdon Music Readers.* New York: C. H. Congdon.

make these available must be equally scrupulous. One of a collection of simple folk melodies fitted to texts of unusual charm, *Songs for the Little Child*, by C. B. Baker and C. Kohlsaat (Abingdon Press), is given on page 199.

As early sight-reading material, folk songs of simple melody and rhythm are invaluable. Printed with widely spaced type, one phrase to a line, the appearance of the page encourages beginners to undertake the task of deciphering, and they feel amply rewarded for their efforts by the intrinsic worth of the song when mastered. As such songs usually contain repeated phrases, phrase analysis (see p. 266) presents small difficulty. In one practical and delightful collection of beginners' sight-reading songs[1], out of sixty-three numbers there are thirty-one folk and dance tunes. The text fitted to these vital melodies appeals to the intelligence, humor, and esthetic sense of the children.

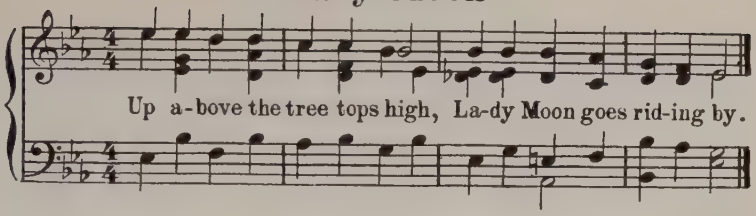
ROTE SONGS FOR TECHNICAL STUDY

The "technical" song is so named by the teacher who has chosen it for a special phase of the technical training she must give to the children. In the kindergarten and first grade such training includes voice placing, ear training, acquaintance with the major scale sequence, the awakening of a sense of rhythm, and the initiation of monotone cure. Since all musical accomplishment with little children is through imitation, the various phases of work must be carried on by means of rote songs. Those chosen for voice placing include descending phrases which shall bring the quality of the head register down to the low pitches which tempt the use of hard, strident chest tones. (See "Lady Moon" on the opposite page.)

The song which is chosen for its infectious rhythm is also a technical song. With young children difficulty in articulating consonants sometimes tends to break the even flow of rhythmic movement. To instill accurate rhythms through

[1]The Progressive Music Series, *Primary Song Book for Sight Reading*. Newark, N. J.: Silver, Burdett and Co.

Lady Moon

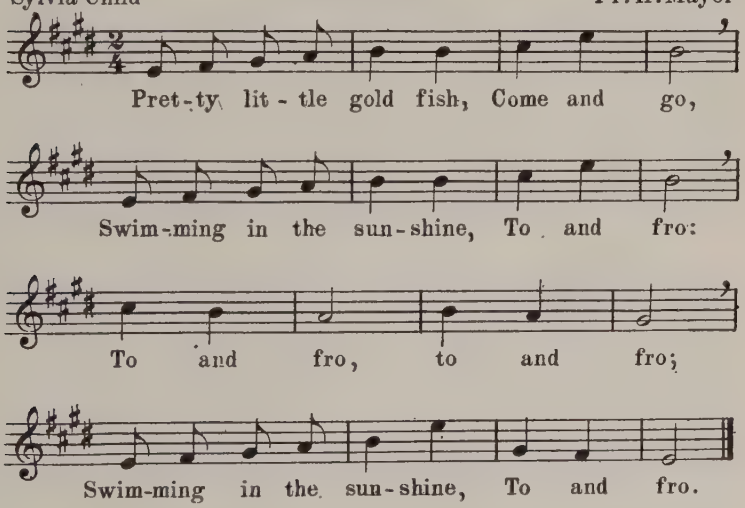


song singing, the text must be composed of words which by happy juxtaposition of consonants and vowels easily roll off the tongue. In school activities, rhythm is impressed on the child through many channels but the ultimate test of mastery is the singing of a rhythmic song accurately. The teacher must herself hold rhythm in high estimation, as important as melody and more fundamental. Percussive (such as p, b, t) consonants are helpful in stressing the accents.

Pretty Little Gold Fish

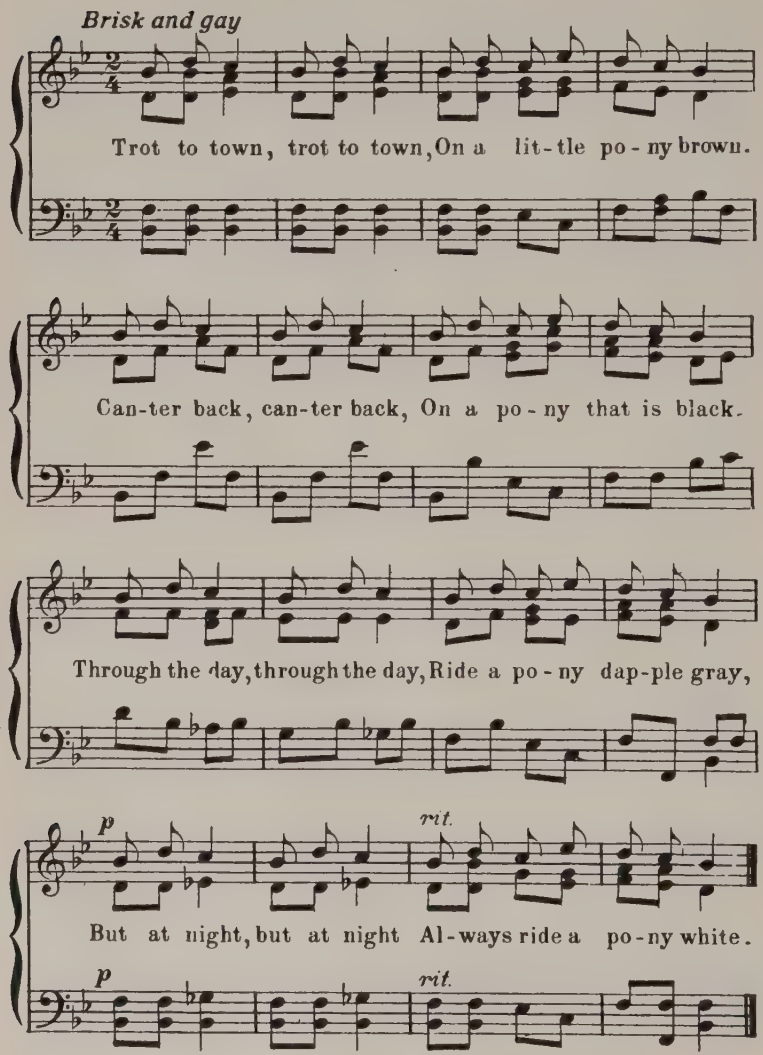
Rhythm Study

Sylvia Child — Fr. H. Mayer



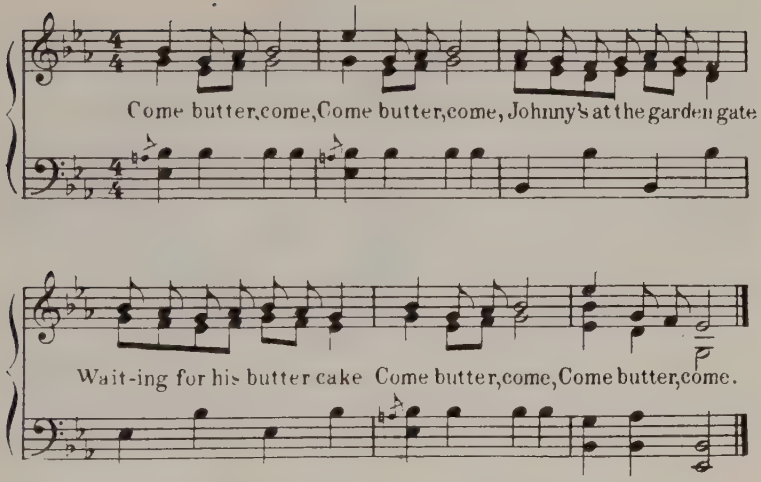
From The Progressive Music Series, *Book Two*, by permission of Silver, Burdett and Co., publishers, Newark, N. J.

Trot to Town



From The Progressive Music Series, *Primary Song Book for Sight Reading*, permission of Silver, Burdett and Co., publishers, Newark, N. J.

Churning Song

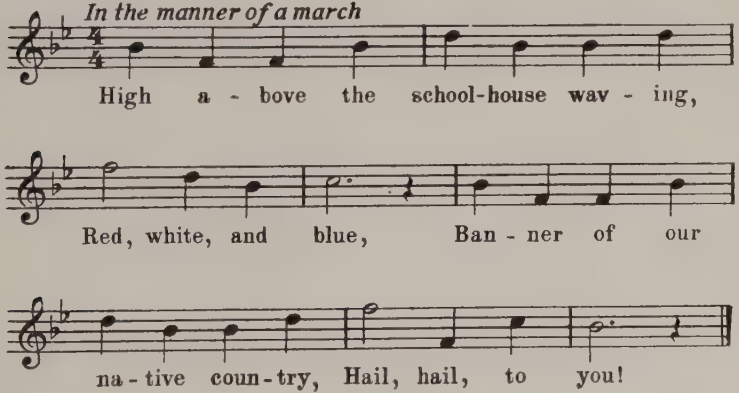


From the Music Education Series, *Songs of Childhood.* Used by permission of Ginn and Co., Boston, owners of the copyright.

Our Flag

Mary Vaughn — Old Tune

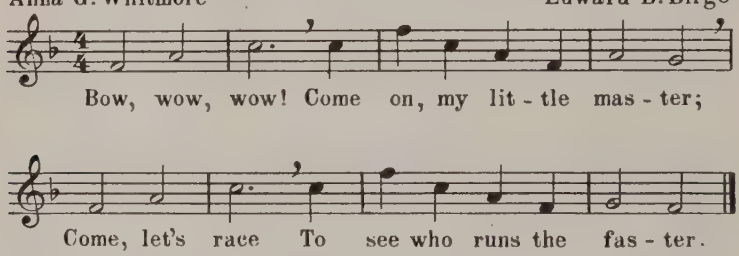
In the manner of a march



From the Music Education Series, *Songs of Childhood.* Used by permission of Ginn and Co., Boston, owners of the copyright.

Fido and His Master

Anna G. Whitmore — Edward B. Birge



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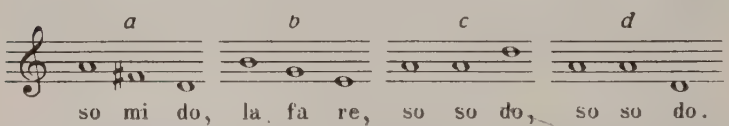
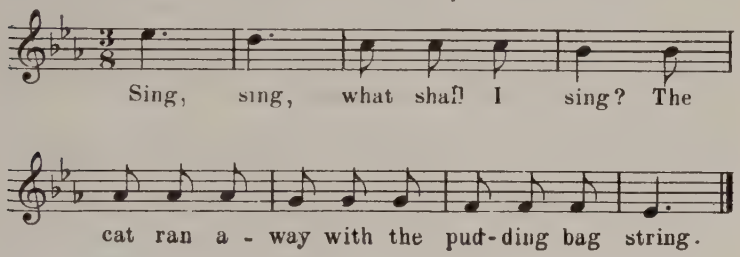


The technical song for ear training makes use of the pitches of the tonic triad, one, three, and five of the major scale (see above). Children hear and sing these tones more easily than any others. Therefore songs chosen to develop accuracy

of pitch should abound in tonic figures and tonic accents. (See "Our Flag," p. 205; "Fido and His Master," p. 206.)

Familiarity with the major scale progression may be gained in the kindergarten through songs. The descending sequence of pitches will be more easily sung than the ascending. Mother Goose jingles fitted to a rhythmic scale provide practical material for this work.



THE ART SONG

The third type of rote song for kindergarten and primary grades is the so-called art song, whose functions are to awaken a response to beauty, to develop artistic appreciation, and so to arouse the child to the charm of musical expression that he will be led by his own motive to acquire some mastery of the art. Dr. Surette[1] in his chapter on music for children makes a thrilling plea for the best: "By singing, and by singing only, a little child may come in contact with a pure and perfect form of beauty." Further, "The joy which a child gets in reproducing beautiful melodies is like no other experience in life. It is absolutely a personal act, for the music lends itself to the child's individuality as nothing else does." The song which he has mastered becomes his own and in giving him a beautiful channel of expression we are uncovering and deepening an emotion which shall be of lifelong value.

The fine folk song is independent of accompanying harmony. It does not need harmonic explanation. The art song on the contrary contains subtleties of melody and rhythm

[1]Thomas Whitney Surette, *Music and Life.* Boston: Houghton Mifflin Co.

which demand clarifying through harmonics. The song lingers in the mind not as an independent melody but as a complexity, richer and more satisfying. There is need of careful discrimination in the selection of art songs which are of educational value to the child. If the teacher's taste has been cultivated by much use of the sturdy folk song, she will be quick to perceive the weak and sentimental material which is especially to be avoided.

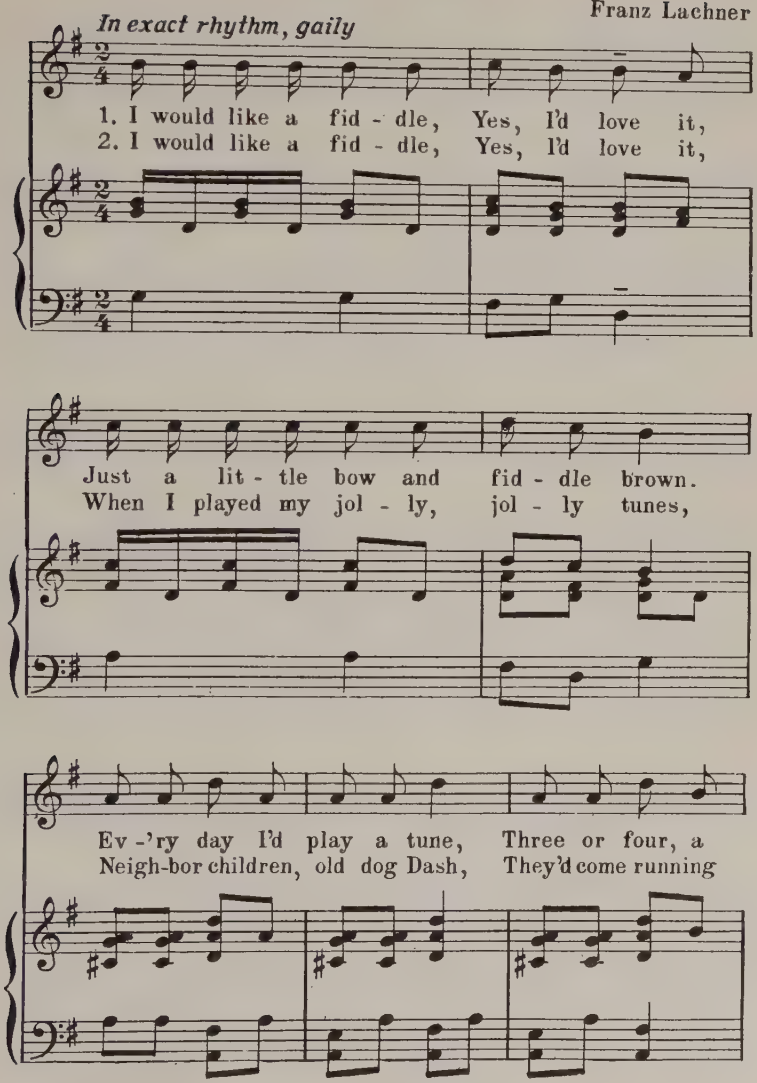
Selection of Art Songs. An art song to be useful in school work must be able to endure much repetition and retain its charm. The "pretty" song and the "cute" song, which may properly find their place in the home circle where children cluster around their mother at the piano, do not meet the requirements of the formal training in the schoolroom. The art-song repertoire need not be large but it must be of the best quality, fit to be retained as children pass from one grade to another. Great writers have provided material for this cultural work.

Elliott, J. W.: *Mother Goose Melodies.*
Grieg, Edward: *Seven Songs.*
Reinecke, Carl: *Fifty Songs for Children.*
Scott, Beatrice Macgowan: *Art Songs for Children.*
Smith, Eleanor: *Song Pictures from Stevenson's Child's Garden of Verses.*

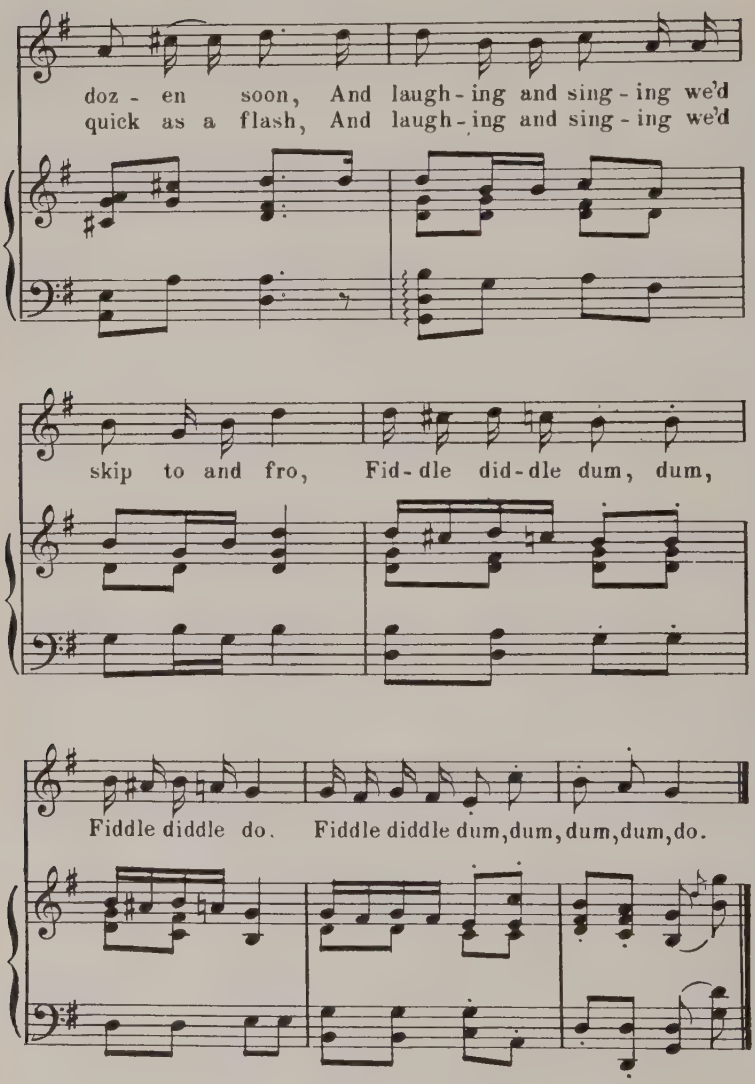
In such collections may be found songs whose text and melody arouse an emotional response in the child, laying a foundation for musical discrimination. Examples follow.

The Fiddle

Franz Lachner

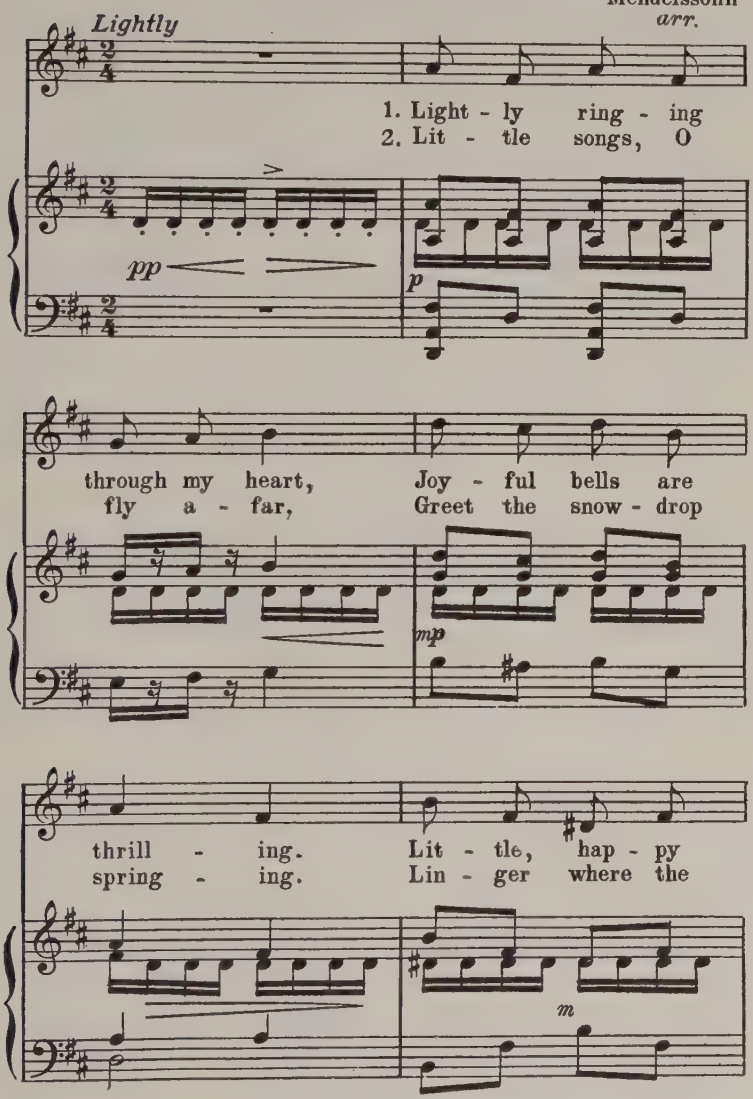


The Fiddle *(Continued)*

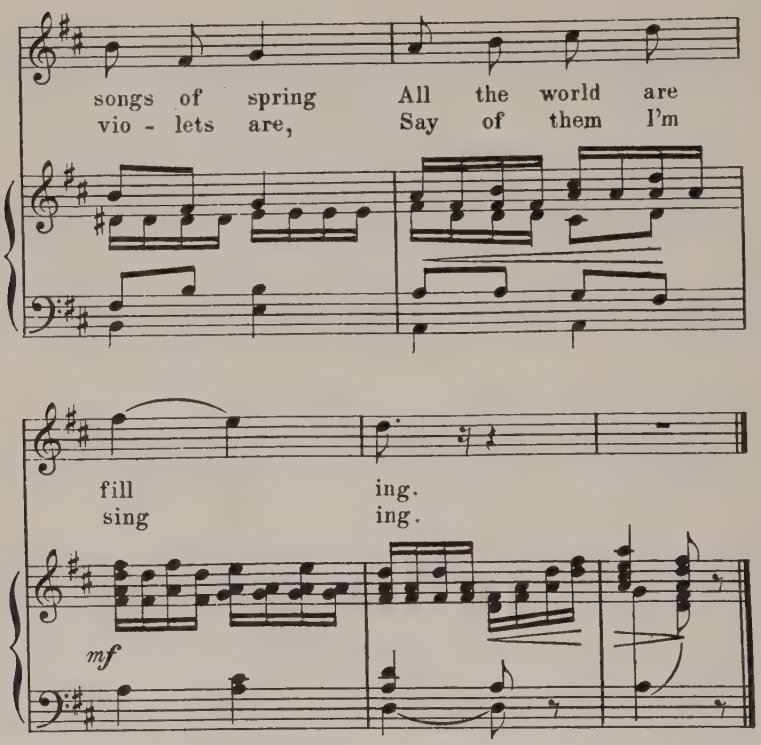


Lightly Ringing

Mendelssohn
arr.



Lightly Ringing *(Continued)*



SONG ACCOMPANIMENT

If children leave the primary grades filled with a realization of the worth and beauty of music, they will approach the complexities of later training with the impetus of their own motives. Publishers are quick to discern this trend of thought and in their output now combine beautiful art songs with the necessary material for technical training. The use of these implies the presence of a piano or other keyboard instrument in every primary-grade room. Piano and organ manufacturers are putting out small and relatively inexpensive instruments to meet this need.

Since the accompaniment to young voices must be light and the tone of long-used pianos is often strident, it is necessary to find a way to subdue the resonance. This may be accomplished by placing two small pegs of wood in such a position as to cause the hammers to strike the strings lightly, thus producing a tone suited to the size of the room and the volume of the voices. This wood is easily removed when desired. An accompaniment played on a loud-toned piano induces the use of the forced voice and neutralizes efforts at tone-placing. Constant use of the soft pedal gives an accompaniment devoid of dynamic variety and tends to produce an inexpressive effect in the singing. On a properly voiced piano the teacher may suggest, direct, and inspire without words, thus permitting a greater sense of freedom than if she directed the children in words to sing louder or softer, slower or faster.

Where a piano is not available a small organ is appropriate and helpful for use with primary children. The sustained organ tone encourages smooth legato singing, producing desirable results. Since, however, song accompaniments are composed for the lighter, more rhythmic effect of the piano, the latter is preferable.

CHAPTER THREE

MUSIC IN THE KINDERGARTEN

SINGING in kindergarten classes has often been regarded as a social activity only. Teacher, assistants, and a piano accompaniment in reinforcing the singing of the children have often submerged their voices to such an extent that in the composite tone their share became negligible. Today it is recognized that definite steps in the musical education of the child are properly begun in the kindergarten. Monotone cure, voice training, melodic accuracy, and the awakening of a feeling for rhythm are initiated here through chorus and individual singing. The teacher should be a close and careful observer. The material chosen to gain specific results, while simple in character, must possess enough true musical charm to intensify the child's natural response and reaction to beauty.

A suggestive lesson for each month of the school year follows:

SEPTEMBER

Children approach the piano to listen. The teacher plays a quiet phrase in the key of the song she plans to teach, then sings a series of pitches for imitation by the children, using the syllable *loo:* $\overline{C}$, $\overline{D}$, $\overline{E}$, and $\overline{F}$.

Teacher: Mary sang that high one sweetly. Sing it for the children.

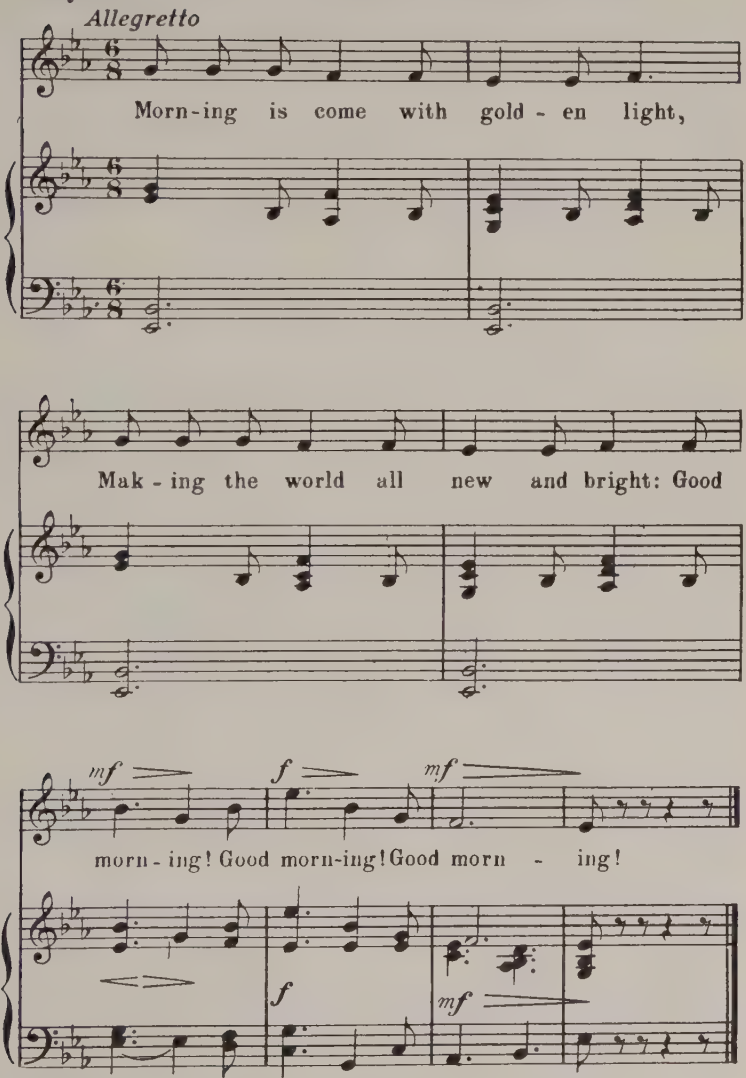
Mary sings *loo* on $\overline{F}$ with silvery clarity. The children imitate more or less correctly.

Teacher: I think we shall often like to sing the little song I am going to teach you when we come together in the morning.

The teacher sings with quiet accompaniment a song of greeting.

Morning is Come

Mary Slade



From *Song Devices and Jingles*, by Eleanor Smith. Boston: Lothrop, Lee & Shepard Co.

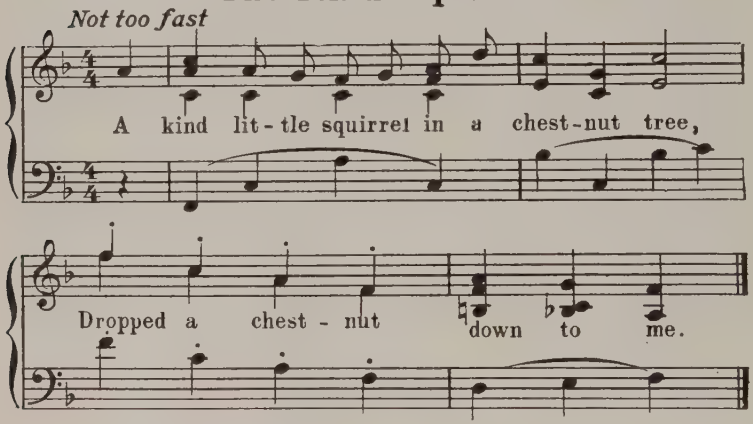
Teacher: Who can sing the high Good Morning?

Drill on these pitches with *loo* brings beautiful tone-quality. Words and melody are then taught. The accompaniment is added later.

OCTOBER

Teacher: Our song today is about a kind squirrel who dropped one of his chestnuts down to a boy.

The Kind Squirrel



The teacher sings with clear enunciation and accurate rhythm. She then repeats the text.

Teacher: Who can sing this?

She sings *loo* on $\overline{F}$. The children imitate. She sings *Dropped a chestnut* several times to impress the phrase on their minds. Again she sings the whole song, the more musical children tentatively joining in. With this preparation she can count on a spontaneous response from the children, who sing the song repeatedly. Finally they sing with the piano accompaniment which is played lightly to blend with the voice quality and crisply to accentuate the rhythm.

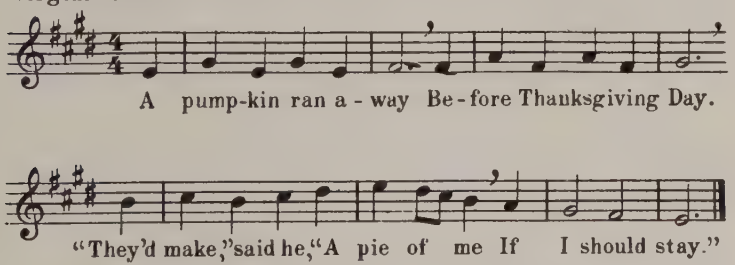
Further drill to bring up the dependent singers is postponed until a later lesson. The first impression of freshness and charm must not be jeopardized in the mind of any child whether or not he is singing accurately in tune. It is an interesting fact that a child song which is not thoroughly learned seems to go through a process of mental digestion, and when resumed at a second lesson is ready for the finishing touches of exact intonation and careful enunciation (Ex.: Squir-rel, not squirl). When the song is ready to become one of the class repertoire, the children stand to sing it.

NOVEMBER

Individual singing of songs is a privilege coveted by most little children, and since the habit is desirable the teacher occasionally devotes a period to this feature. She calls for volunteers and allows the chosen child to make his own selection. Often a song learned at home is sung. The preparation for such work is the voice-placing exercise which leads to high-pitched, resonant tone. The soloist stands beside the teacher not only properly dominating his audience but also being within reach of help should memory prove false or melodic difficulties arise.

The Frightened Pumpkin

Virginia Baker — Scotch Folk Dance



From The Progressive Music Series, *Book One*, by permission of Silver, Burdett and Co., publishers, Newark, N. J.

DECEMBER

The children sit grouped around the piano. The teacher plays an attractive phrase. Tone placing is pursued as before.

Teacher: We have Lewis with us today. He found his sweet, high voice yesterday, so he has come to sing with us. Come, Lewis. (She sings *loo* on $\overline{C}$.)

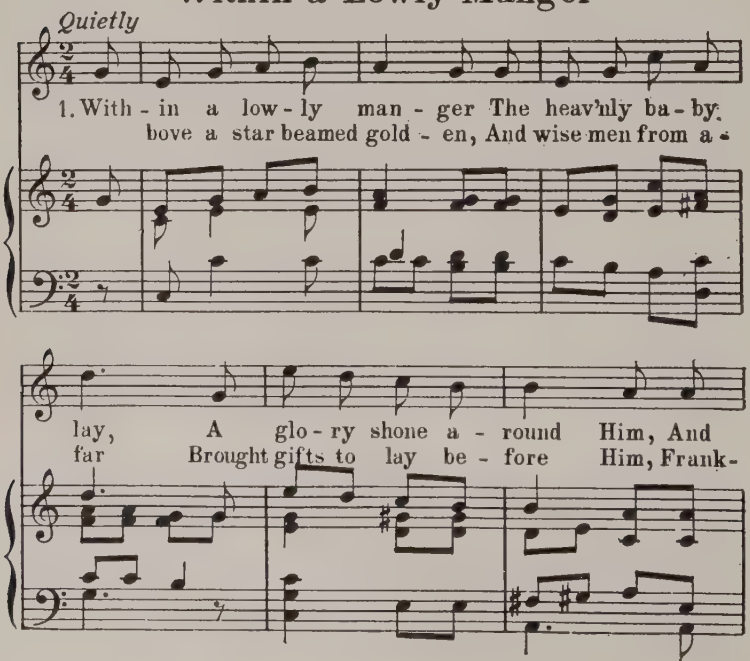
Lewis imitates in a breathy little voice correctly pitched.

Teacher: Lewis can be the Christmas bells very nicely. Show them, Lewis. (See "Christmas Bells," p. 191.)

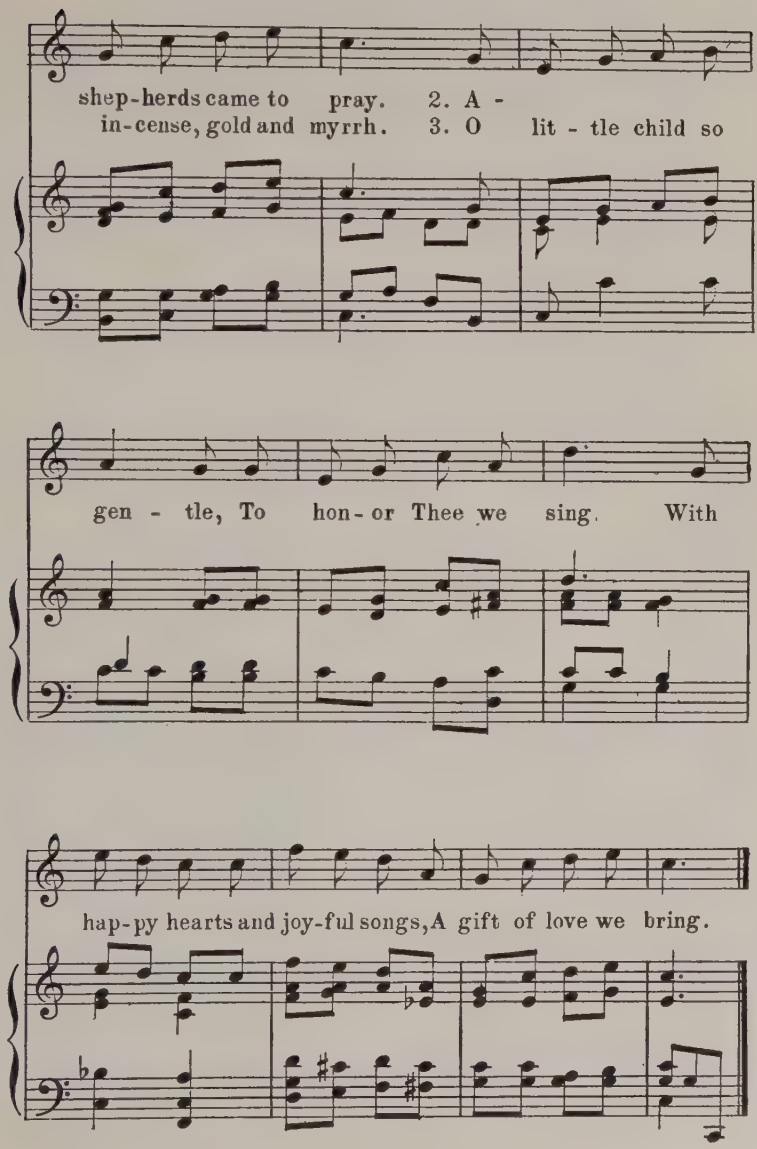
The teacher sings *Ding dong* on the correct pitch and Lewis imitates successfully. The song is familiar and is sung by the children. The newcomer takes the part of the bells.

Teacher: Our new song is about the Baby that the shepherds found lying in a manger. How many people know that story? Ask someone at home to read it to you again.

Within a Lowly Manger

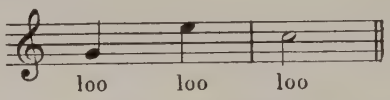


Within a Lowly Manger *(Continued)*



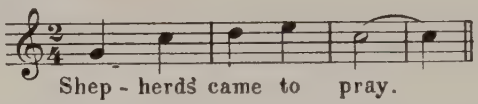
The teacher recites the poem, then sings the song with piano accompaniment to establish its tonality.

The teacher sings:



Children imitate correctly, the tones being those of the tonic chord.

The teacher sings:



The children imitate, the round vowel on the upper tone aiding in voice placing. The first verse is repeated. The teacher sings it unaccompanied. The children join tentatively.

In later lessons the entire song is learned and is listed as one of the numbers on the Christmas program.

JANUARY

Tone-placing and tone-matching exercises are carried on as before with single high pitches sung by the teacher and imitated by the class, in groups or individually as need arises. The teacher draws a picture of a snow crystal on the blackboard.

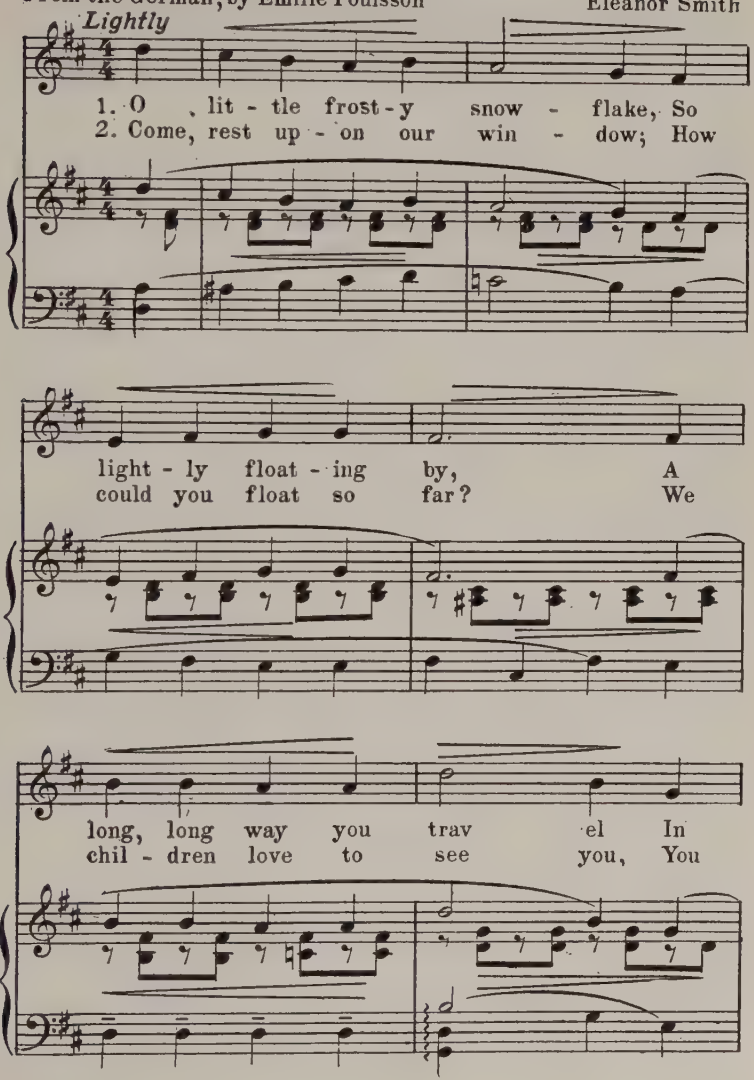
Teacher: Our new song is about a little frosty snowflake. It calls it a pretty filmy star. If you look on the sleeve of your coat some snowy day you may see one of these little starry flakes. It will soon disappear because it is so filmy and delicate. Can you say "filmy?" (Children repeat the word carefully.) The name of the song is "To a Snowflake."[1]

The teacher sings:

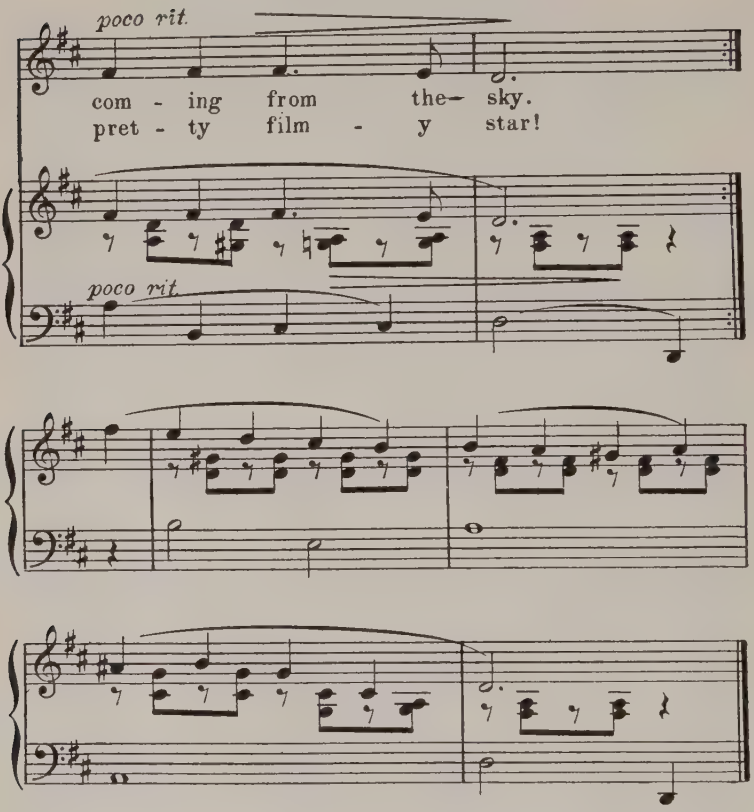
[1]From the copyrighted edition, *Songs for a Little Child's Day*, by Emilie Poulsson and Eleanor Smith, by special permission of the publishers, Milton Bradley Co., Springfield, Mass.

To a Snowflake

From the German, by Emilie Poulsson — Eleanor Smith



To a Snowflake *(Continued)*



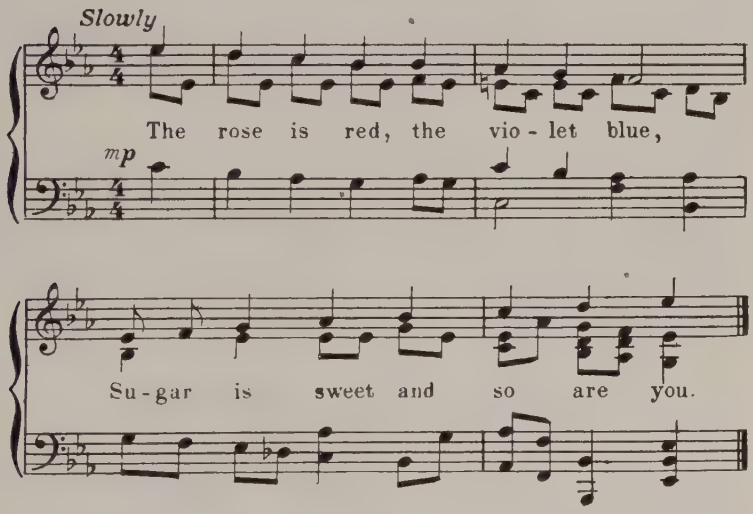
The teacher recites the entire poem with sympathy and charm. No further comment on the text is necessary. The downward trend of the melody with its round vowels, *o͝* in frosty, long, and *o* in snow, floating, give ease and loveliness in tone-production. The exquisite accompaniment when played lightly with proper shading is a valuable listening lesson to be used at any quiet time. This song will remain in the children's repertoire through the first and second grades with unceasing charm.

FEBRUARY

Tone-placing and tone-matching exercises initiate the lesson.

Teacher: I am giving you a little song-valentine today. Sings:

A Valentine



This is a valuable exercise for tone placing with its downward trend, its *rose* at the outset and its prolonged *blue* and *you.* Familiarity with the scale progression is gained through such rhythmic songs built on the scale. The foundation thus laid proves useful when later sight reading is pursued.

MARCH

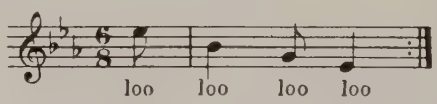
With a view to gaining inspiration and zest, the monotone group is invited to come to the piano and sing with the musical children. Their six months of specialized drill has resulted in the promotion of fifty per cent of the original number of monotones and decided improvement is shown in

some of the remainder. In preparation for today's concert, some of the same songs have been taken up in both groups, and now can be sung antiphonally with evident satisfaction. As the rhythm of these songs must be maintained intact, only the more able children are chosen to initiate the singing, but later, every child has a chance to take part. In such a song as "Blow, Wind, Blow" (see p. 187), the success is gratifying. Since monotone cure is effected through aroused motive and interest, the concert device used occasionally during the year produces excellent results.

APRIL

The children's repertoire by this time is quite large and the opportunity to choose favorite songs is often given. Singing individually or in small groups is encouraged, though only such criticism is given as is necessary to insure the use of a normal tone.

The teacher sings:

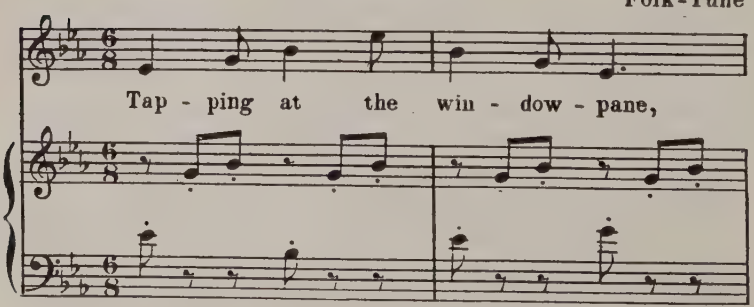


The class repeats. Recently promoted children try individually. The class repeats.

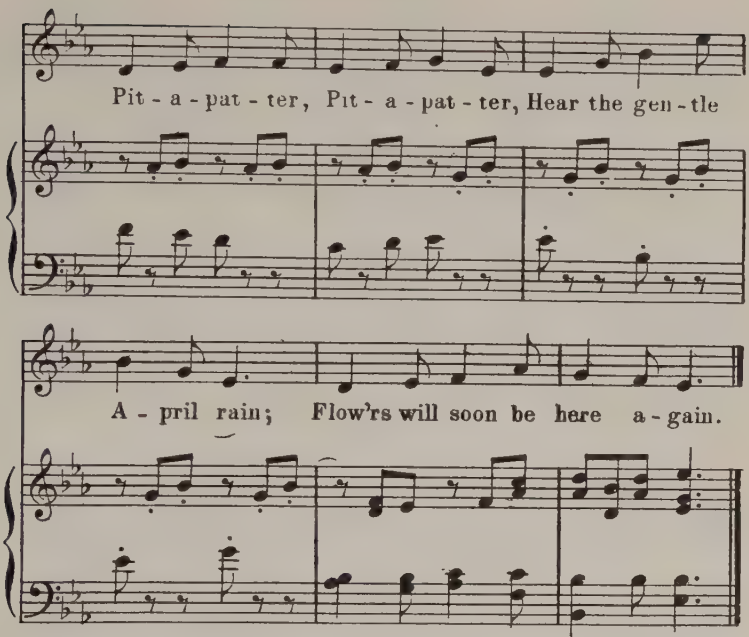
The teacher sings:

April Rain

Folk-Tune



April Rain (*Continued*)



The teacher sings the song again. The children sing. When the song is fairly well learned three or four sweet voices are chosen to sing the *Pit-a-patter* as an antiphon, the class singing the remainder. This is an opportunity for introducing dynamic effect, the "raindrops" being much softer than children's voices. With the soft singing there must be neat enunciation to get the proper effect, thus giving a chance to drill *p* and *t* with a logical motive.

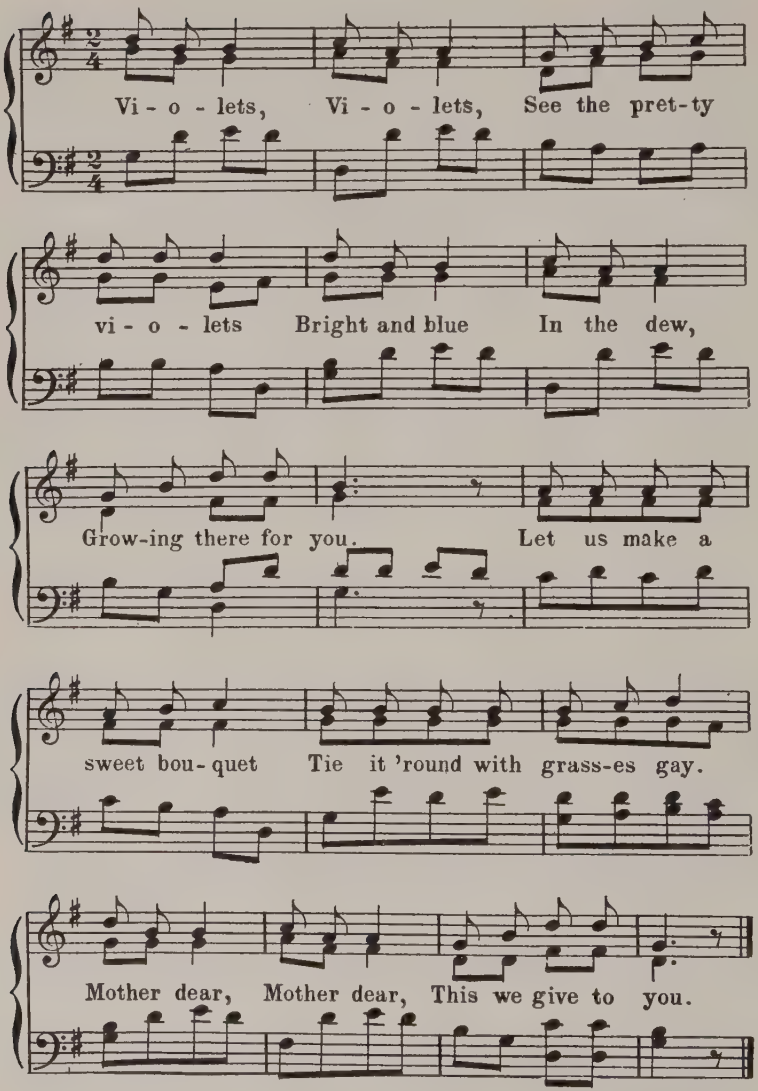
MAY

The teacher sings the word *violets* on the pitches with which it is first used in the song. The boys imitate; the girls imitate; the whole class imitates, this being an excellent voice-placing figure.

The teacher sings the song, "Violets," (see p. 226).

Violets

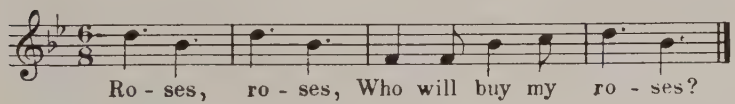
Folk-Tune



The children listen to the song twice, once with the accompaniment and once without. Repetitional phrases make the melody easily sung, easily memorized, and frequently chosen when it has later become one of their repertoire. It should be noted that no folk song requires an accompaniment, but even in the kindergarten children express a strong preference for accompanying harmony if they have become accustomed to that enrichment of their songs. Since it is wise to admit the child who has left the ranks of the monotones but still is sometimes inaccurate in his singing, there should occasionally be chosen a group of the most gifted children to sing alone, both as models and in justice to themselves. With a pleasing accompaniment this is often charming.

JUNE

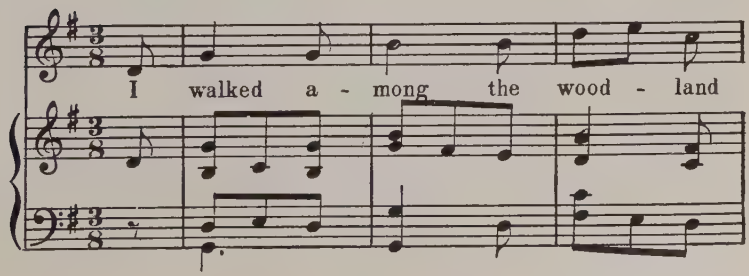
The teacher sings:



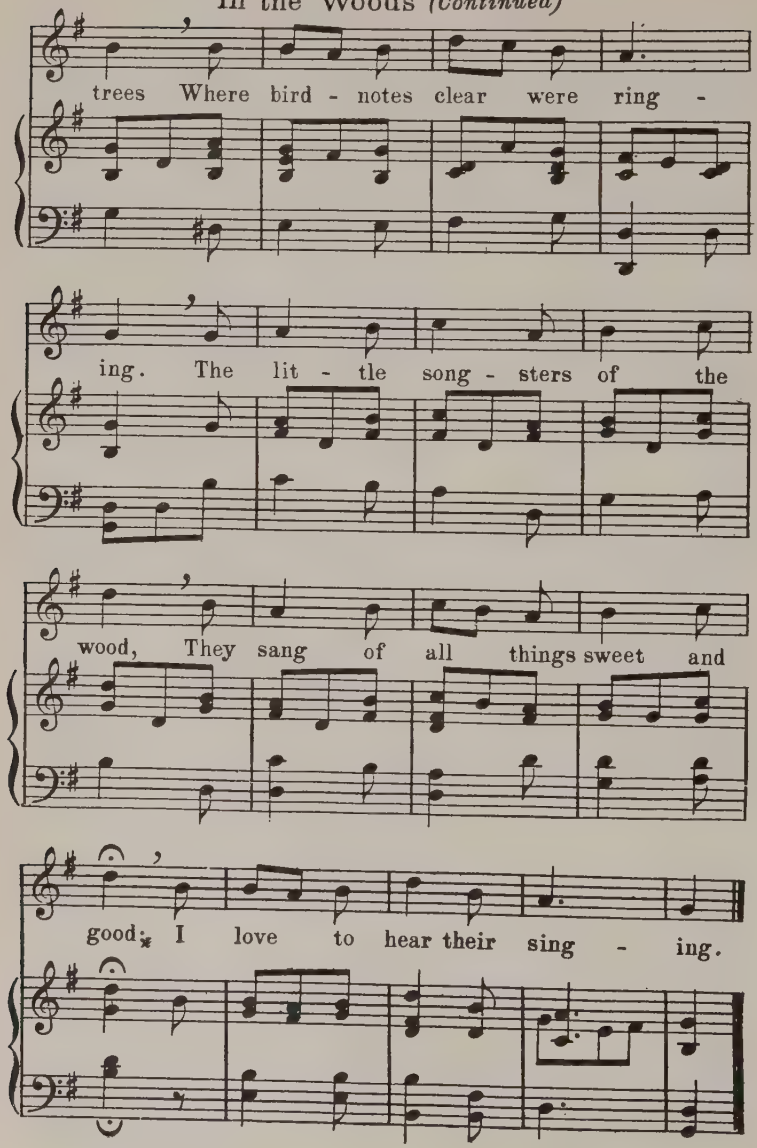
The children imitate. The teacher chooses the recent monotones to stand and sing individually the word *roses* on its pitches. The class sings the exercise transposed, ascending by half steps until its highest pitch is $\overline{F}$. Voice quality is lovely at that height. The teacher sings:

In the Woods

Folk-Tune



In the Woods *(Continued)*



CHAPTER FOUR

MUSIC IN THE FIRST GRADE

CHILDREN who have had experience with song-singing in the kindergarten will be able to take up the simple problems of first-grade technique at once. Otherwise a season of rote-song singing is essential. Familiarity with various forms of melody and rhythm gained unconsciously from these songs forms the foundation upon which a structure of technical knowledge may be begun. Since rhythm comes first in the development of music it is logical to begin our teaching with this phase. The children are led to observe repeated or contrasted rhythms occurring in songs, to name these, to clap their accents, and to draw pulse-pictures (see pp. 231 and 232). This work so impresses on their minds a sense of rhythm that later when sight reading is undertaken time may be "felt, not beaten."

The following outline for the teaching of music in the first grade is taken from the Report of the Educational Council of the Music Supervisors' National Conference on a Standard Course in Music for Graded Schools:

AIMS

(a) To give every child the use of his singing voice and pleasure in song as a means of expression.

(b) To cultivate the power of careful, sensitive aural attention.

(c) To provide the pupils, through accompaniments to some of their songs and the hearing of much good music, with an experience richer than that afforded by their own singing.

(d) To give every child enjoyment of music as something heard as well as something expressed. (Appreciation of music.)

MATERIAL

(a) Rote-song books in the hands of the teacher.
(b) A keyboard instrument for playing accompaniments.
(c) A pitch pipe; also a staff-liner if the teacher so wishes.
(d) A phonograph, with at least 20 records of good music.

PROCEDURE

(a) Singing songs by rote, using light head tones ordinarily not exceeding the range of the treble staff.
(b) Imitative exercises for curing so-called monotones.
(c) Singing songs entire, or phrase by phrase, individually. (To include all members of the class.)
(d) Occasional use of accompaniments on well learned rote songs.
(e) Directing aural attention to beauty of tone in singing and to simple aspects of music as observed in rote songs and in music heard, such as repetitions and recurrence of phrases, and repeated rhythms.
(f) The teaching of syllables as desired.

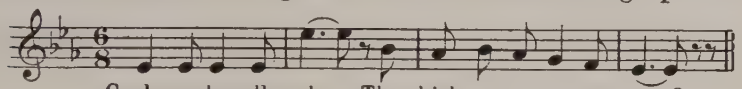
ATTAINMENTS

(a) Ability to sing pleasingly a repertory of 30 to 40 rote songs appropriate to the grade, including one stanza of "America."
(b) The reduction of the number of "monotones" to 10 per cent or less of the total number of pupils.
(c) Ability of 90 per cent of the pupils to sing individually, freely, correctly, and without harmful vocal habits, some 5 of the songs sung by the class as a whole.
(d) Preference on the part of the children for good tones rather than bad, *and the disposition to love the best of the music they have sung or heard.*

Locating the monotones and seating them in the front row where they may be observed and helped is necessary at the outset. To distinguish them, the teacher sings an ascending octave skip in the key of E using the words, *Up we go.* Children imitate. Since negative criticism is useless, teacher announces that she hears some voices that are sweet and high. This commendation spurs effort. Those who show conclusively that they cannot reach the higher pitch, either through faulty voice production or lack of tonal sense, form

the monotone group. As the more gifted children are located, they are also grouped, forming a model chorus which may be called upon to give beautiful renditions of songs learned by the class. A rote-song book highly recommended for use in the first grade is *Songs for the Little Child* (see p. 202), the melodies being gay folk tunes and the texts brilliantly adapted to the interest of this age. Many songs used in the kindergarten may be carried over into first-grade work.

Aural attention to beauty of tone is directed by means of calls and vocalizes sung with round vowels on high pitches.



"Calling Mary," page 183.

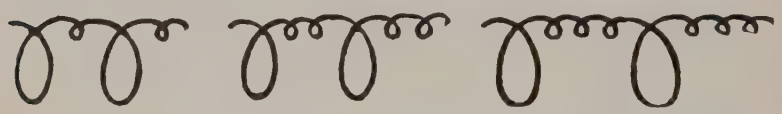
"Bossy, Bossy," page 185.

The month of September having been devoted to song singing, the children are ready for an added stimulus in the shape of an initial step in technique. Their attention is called to the rhythm or beat of a favorite melody and they are led to clap in unison with the music. A conscious analysis of the various rhythms they have been singing is an activity in which the less gifted children may join. A short time devoted to the subject is useful throughout the year and insures greater rhythmic accuracy in the singing.

ANALYSIS OF RHYTHM

The teacher claps the accented beat of four groups of two-pulse measure, counting One, two. One, two. One, two. One, two. Children imitate without counting. A clap on the initial beat only is required. When the sound becomes unified a picture of two-pulse measure is drawn upon the board.

A familiar two-pulse song is sung ("Little Bunnies," p. 198), the connection between song and picture being emphasized by pointing. This measure is drilled by allowing individuals to lead the class in clapping; also by reference to illustrative exercises and songs. Three-pulse and four-pulse measures are similarly handled. Ultimately, through contrasted rhythms of simple material, the children recognize and name the pulse of clearly defined movement when it is sung or played. If time and space allow, they draw the pictures on the blackboard to represent the pulse movement.



gaining in ease until the movement accurately accompanies class singing. Six-pulse-measure rhythm is not taken up until considerably later when textbooks are in the hands of the children. Recognition of rhythmic movement brings a new interest to the less musical children who are obviously glad of something more definite to them than melody.

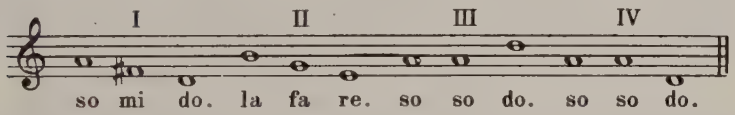
For convenience in the use of ear-training exercises and monotone work, it is well to teach the syllable names of the major scale early in the year. This may be done gradually, with a simultaneous introduction of the staff and its use, visualization helping those who find difficulty in hearing close intervals.

TEACHING THE SCALE

The scale is sung to the children in the key of E♭. Its name is repeated. The first three notes are then given ascending and descending for imitation. After these are well sung the teacher exhibits her staff-liner and asks the children to count the pieces of chalk. There are five pieces to draw the five lines on which music is to be written. She then shows with whole notes the six pitches they have sung, and while she points, the class sings *do*, *re*, *mi*, *mi*, *re*, *do*. At a subsequent

lesson they sing to *so*, and descend. Finally the last three tones are given and the entire scale ascending and descending is sung as the teacher points. No further step is taken in associating sight and sound, but interest is maintained in drill and review of this initial showing of notation, the monotones especially benefiting by seeing the gradual ascent and descent which their voices must make. From this time on, one of the most useful vocalizes to insure good tone is class singing of a prolonged *loo* on $\overline{E}\flat$ followed by the descending scale sung with its syllables.

Since familiarity with melodic figures is first necessary to enable retarded children to express them correctly, it is well to decide upon a series of figures which shall daily be given for imitation. These become impressed upon the monotone



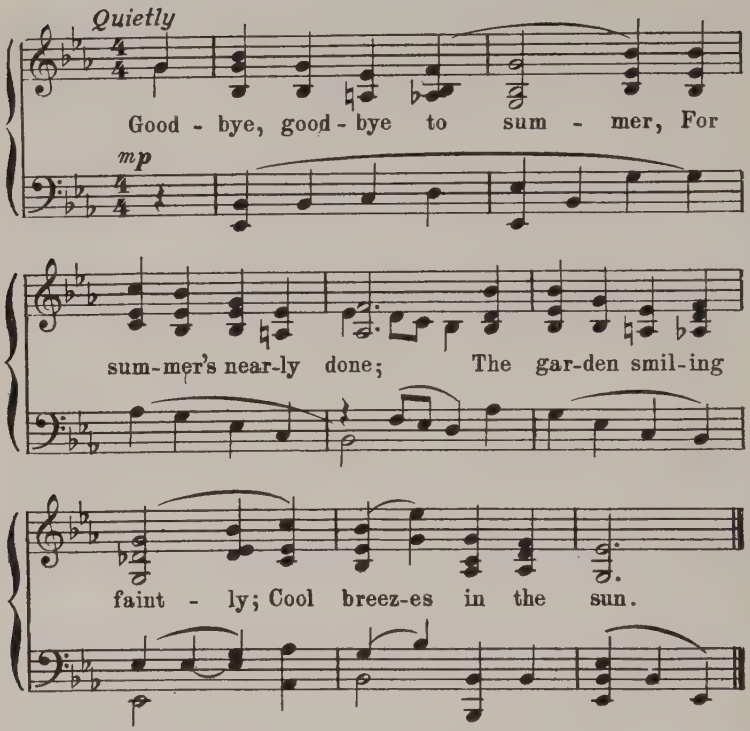
mind until they can be sung with some accuracy, while the musical children know them by heart through much hearing, and give them their correct syllables on hearing them sung or played. This would be their first step in aural recognition of tone groups.

While the needs of the majority of the class are paramount, and class repertoire should not be curtailed by the needs of the few, it is wise to choose an occasional song with the retarded children in mind. Such a song will be slow in tempo, quiet in thought, repetitional in melody, built on the *so*, *mi*, *do*, familiar in drill, and will convey a picture easily visualized by little children.

SEPTEMBER

A typical lesson in September contains such a song. The teacher sings with quiet accompaniment the song "Good-Bye to Summer" which appears on the following page.

Teacher: Can you say *faintly?* The garden smiles faintly because there are only a few flowers left in it.

Good-Bye to Summer

The teacher recites the verse expressively. The children repeat it.

The teacher sings: *Cool Breezes.* If there is difficulty on the part of some children an exercise on $\overline{E}\flat$, $B\flat$, $\overline{E}\flat$ is resorted to, using *loo.*

The device of selecting a difficult pitch or interval for drill before the whole song is taught saves repetition which might jeopardize the charm of the song. The teacher sings it again and the children repeat. The first phrase may be used as a test of ability for a monotone. This song has been the vehicle for monotone promotions later in the year.

A suggestive lesson for each succeeding month follows.

OCTOBER

Songs inducing accurate and forceful speech are useful in illustrating and drilling rhythmic movement. For October, a Russian industrial song gives an opportunity for such practice. The recurrence of phrases facilitates the learning of the song by the less able children, while its gay movement induces vitality and alertness. This song, "Young Natusha," is given on page 236.

NOVEMBER

The teacher gives each monotone a figure to sing, using pitches as high as the child can reach. An increase in voice range is noted; an improvement in tone quality commended. Drill in steady, rhythmic singing is carried on by an antiphonal device in which everyone joins. Ear training and syllable practice are included in the exercise[1] which appears on page 237.

In preparation for the Harvest Assembly in which the three primary grades join, a beautiful old French folk song is taught.

Teacher: This is a song which French children have sung for many years at the harvest time. When their grain and vegetables and fruit are safely stored away so the frost cannot harm them, and the people know they have plenty of food for the long, cold winter when nothing will grow, they go out in the fields and join hands to dance and sing. There is one hard word in this song. Can you say *descended?* It says the frost has *descended* because it comes down over the fields.

The teacher recites the verse, then sings the song "O'er Our Fields" which is reproduced on page 238.

This is a song which almost teaches itself. The melodious

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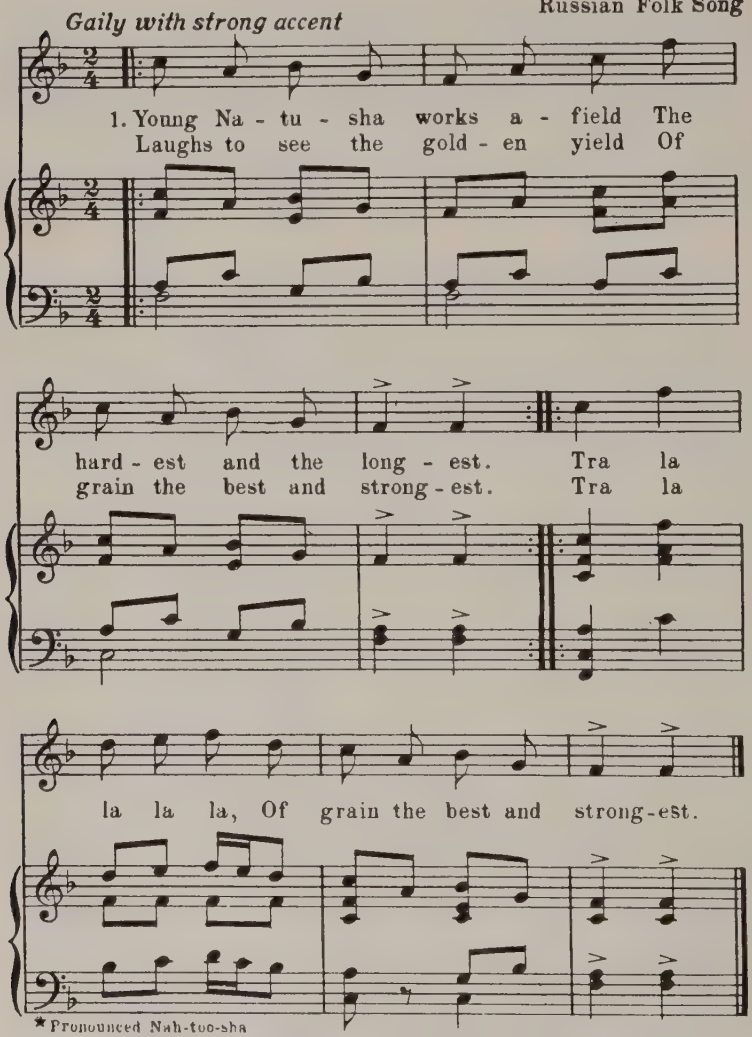
Young Natusha*

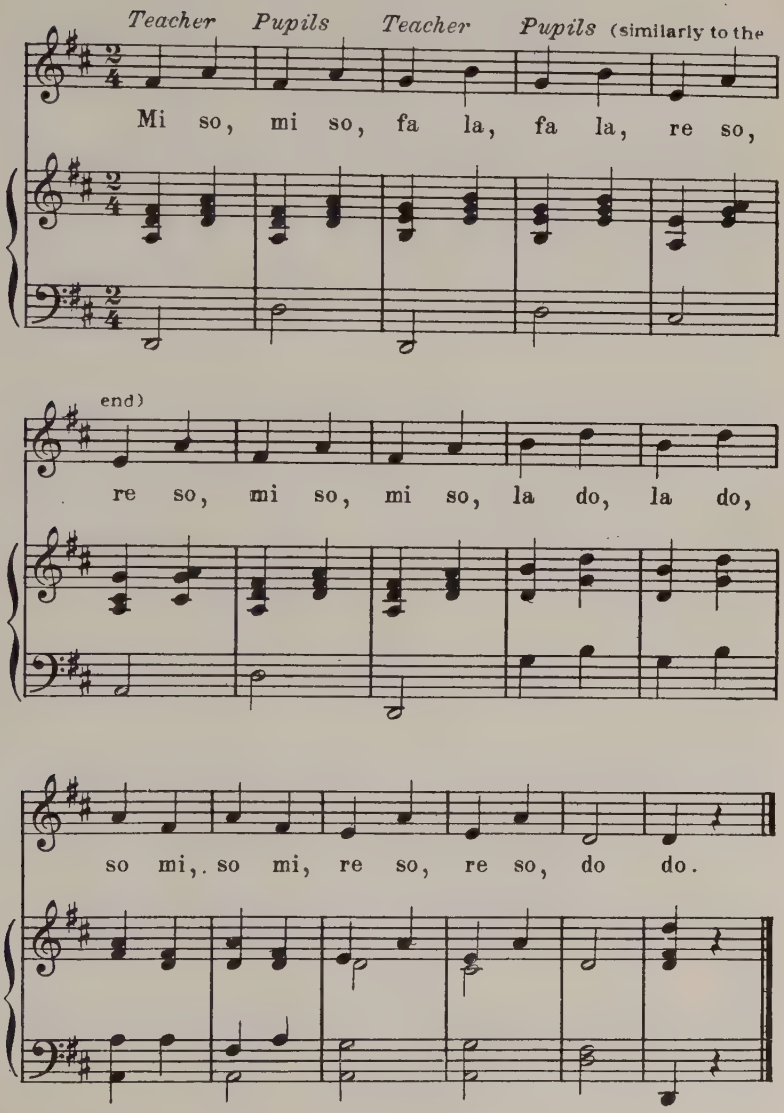
Russian Folk Song



*Pronounced Nah-too-sha

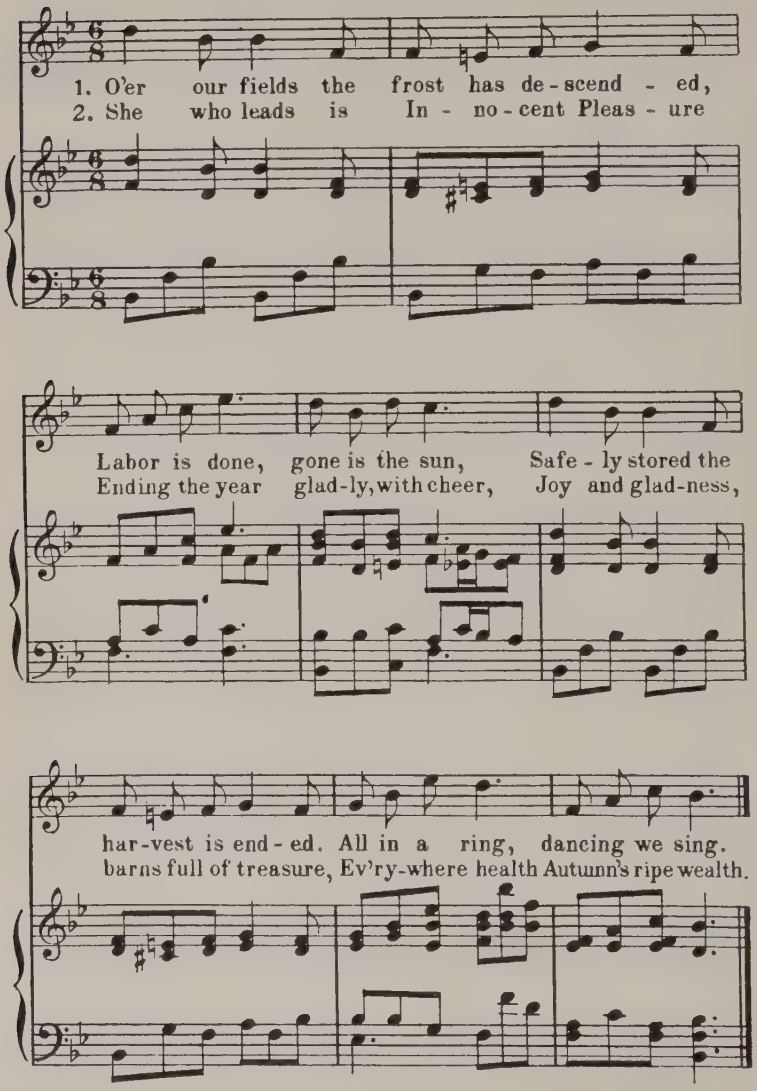
2. "On your fiddle blithe and gay, And every stroke a pleasure."
Good Cossack, play a measure; ‖: Tra la la la la,
Work grows light beneath its sway, And every stroke a pleasure. :‖

Two-Pulse Rhythm



O'er Our Fields

Folk-Song



first phrase with its initial round vowel is correctly imitated at once, the remainder, with the repeated third phrase, almost as soon. For many years this has proved itself of outstanding use and unfailing charm not only at this season but throughout the year when familiar songs are chosen.

DECEMBER

The charm of the Christmas month brings an optimistic atmosphere helpful in singing. Children bring contributions which they have learned at home or Sunday school, with the intention of sharing them with the class. Often a monotone will offer a song. The carol, in which first-grade children may join the other grades in the Christmas Assembly program, is chosen for its charming text, quaint melody, and excellent vocal range. The picture it conveys is especially pleasing. Village children come trooping through the snowy woods each with his sprig of holly, and are welcomed in the Hall of the Great House, where by the roaring yule-log fire they sing their carol and are each given a piece of Christmas cake, a drink of Christmas cider, and a big English penny.

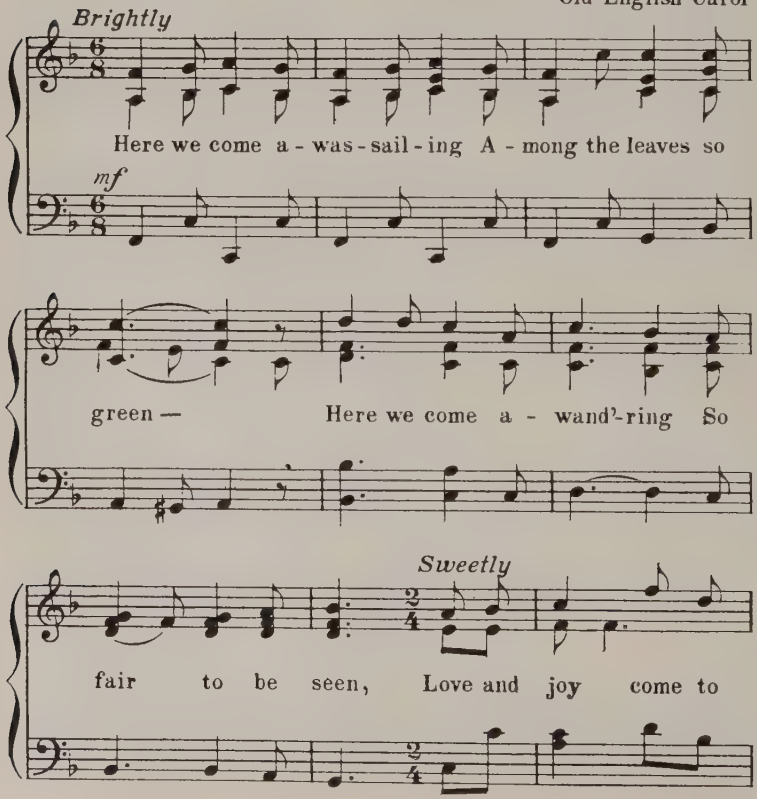
In the carol "Here We Come a-Wassailing" which appears on page 240, the contrast between the gay rhythmic swing of the verses and the quiet smoothness of the chorus gives a charming effect. High F brings out a silvery tone quality which persists throughout, by reason of the many round vowels in the text: to, you, you, too, you, you, new, you, you, new. No strained chest quality can withstand this array, taken in conjunction with the gentle thought of the text. This carol is one of the most precious of the English legacy for Christmastide and will be used throughout the grades.

JANUARY

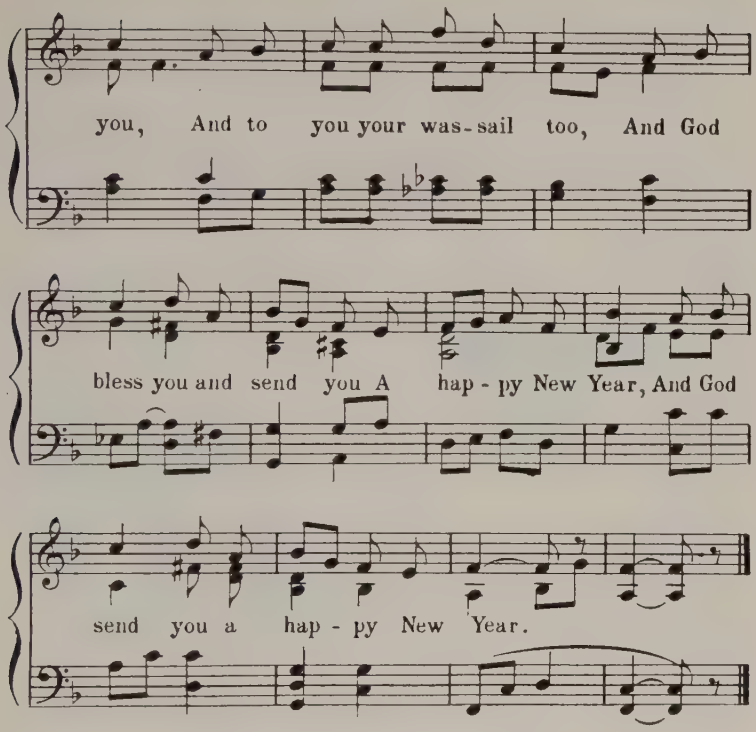
In January, if not earlier, the faithful work with the monotones and the unfailing optimistic attitude on the part of the teacher will begin to bear visible fruit. Johnny will suddenly

Here We Come a-Wassailing

Old English Carol



Here We Come a-Wassailing *(Continued)*



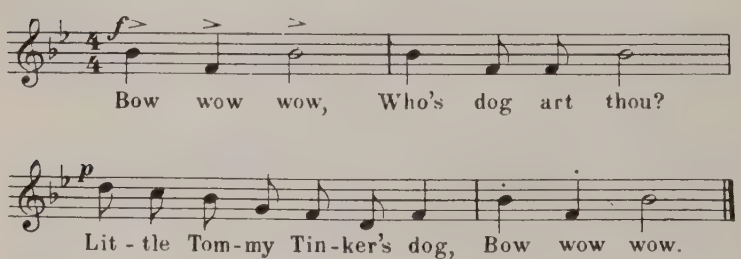
We are not daily beggars
That beg from door to door,
But we are neighbor children
Whom you have seen before. Chorus.

We have a little purse
Made of ratching leather skin;
We want some of your small change
To line it well within. Chorus.

God bless the master of this house,
Likewise the mistress, too,
And all the little children
That 'round the table go. Chorus.

announce that he can sing a special little song which has struck his fancy. Approximate accuracy in holding to the melody will show that he may take his place among the children of the middle rows, the dependent singers, where he will be less handicapped than among the monotones. Such a promotion is an inspiration to the remaining children and effort is redoubled. A useful song for two to perform together, and especially enlivening where one child is tall and the other small, is:

Tommy Tinker's Dog



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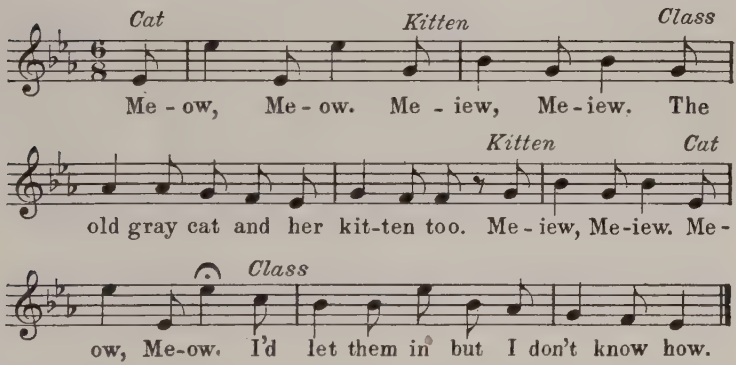
Another humorous song which tempts extraordinary effort to find the high voice is "Visitors." It is well understood by this time that high tones demand a "sweet" voice and unless a child can find a gentle high tone, he is not eligible for this song.

Visitors



A useful combination of ear training, syllable drilling, and rhythm feeling is present in the following three-pulse[1] and four-pulse studies. Much repetition of these is helpful with the less musical children who find themselves able to imitate the short figure sung by the teacher.

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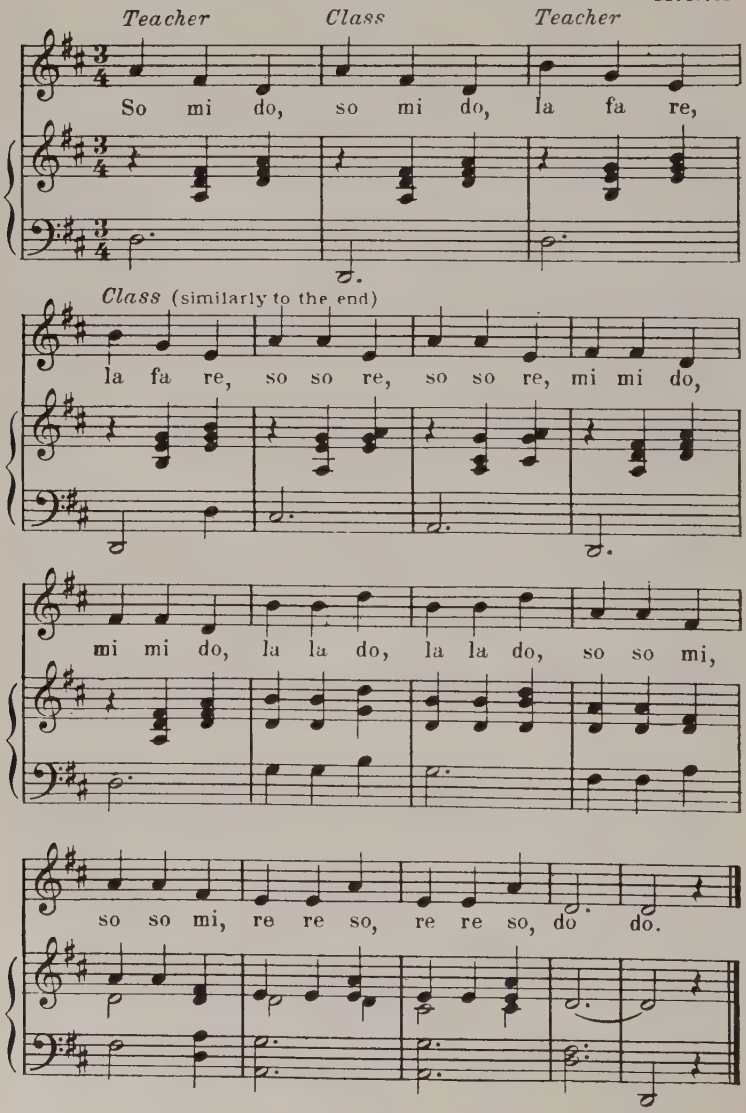
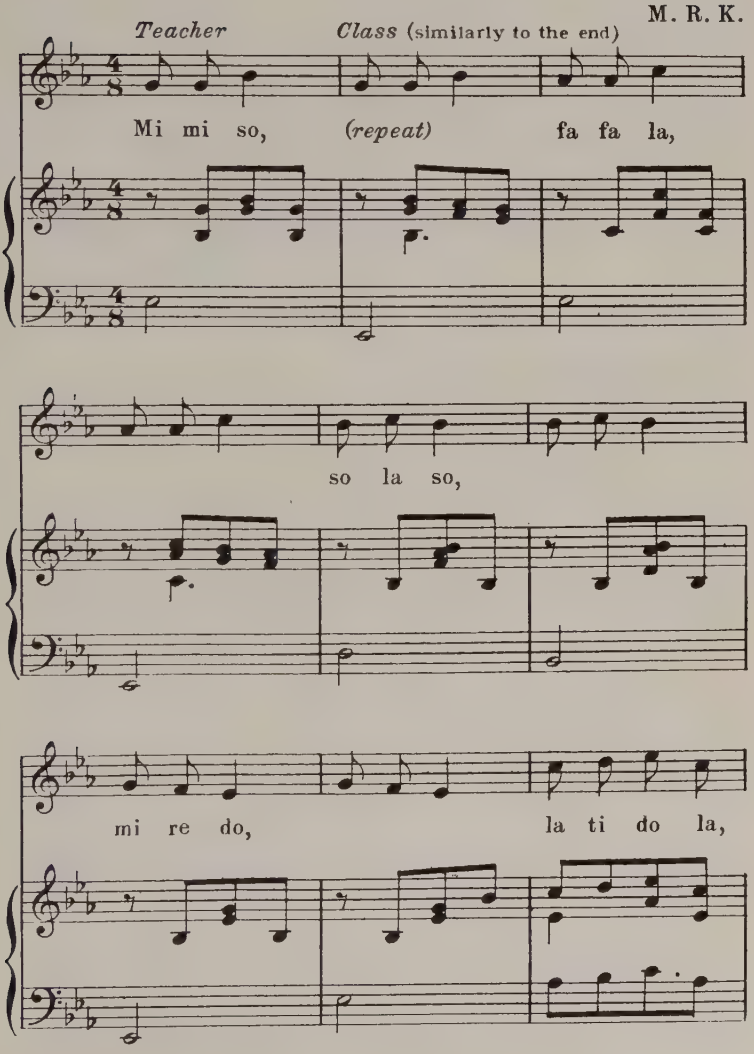
Three-Pulse Rhythm

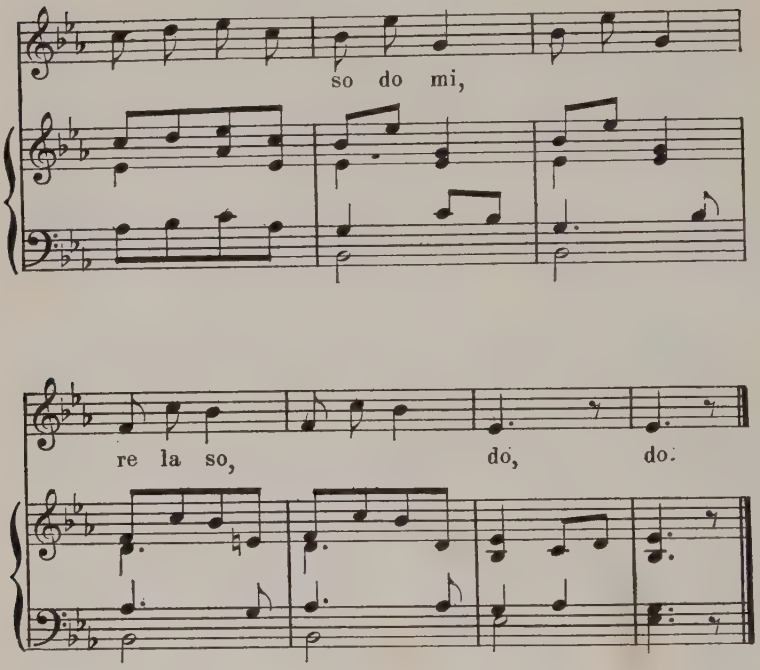
M.R.K



Four-Pulse Rhythm



Four-Pulse Rhythm *(Continued)*

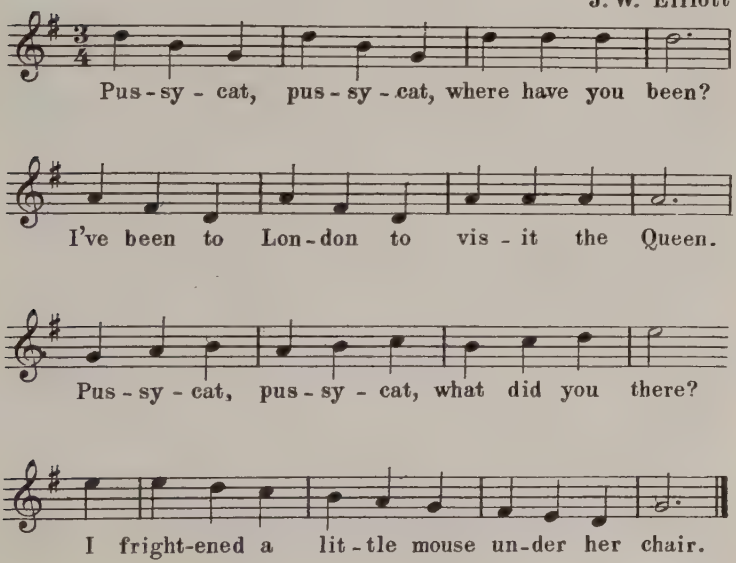


A test of the individual's feeling for rhythm is made by allowing him to draw the pulse picture on the board while the class sings a familiar song. Such songs must be strongly rhythmic and must begin on the accented beat. A good song to use for this purpose is "Pussy Cat" which appears on the opposite page.

Four children would be chosen, each to draw the movement of one phrase. "Little Bunnies" (see p. 198) is clearly rhythmic and may be used for testing the recognition of two-pulse rhythm. Six children would be needed to complete the six phrases of the song.

Pussy Cat

J. W. Elliott



FEBRUARY

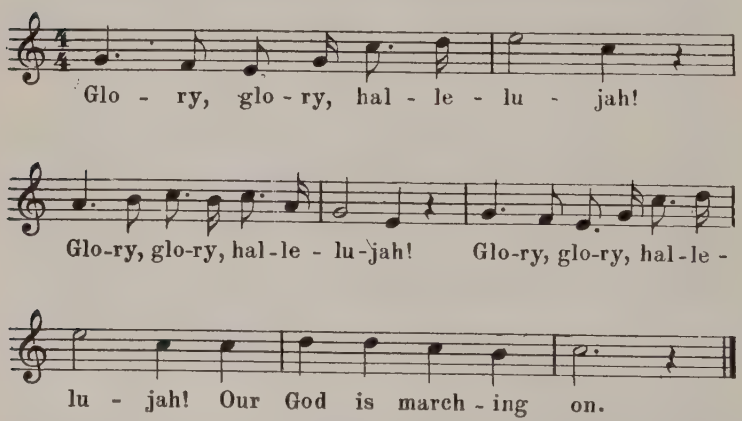
This is the logical month for teaching one verse of "America." To avoid incorrect or parrot repetition of the text, it is well to give a simple prose version:

Teacher: This is a song to our country. It says our America is a land of liberty and freedom because Americans are free to make their own rules. (The children repeat the word *liberty.*) The men who settled this country came from another land where they could not be free. They are called the Pilgrim Fathers. (The children repeat the word "Pilgrim.") They worked to make this new land comfortable to live in. After they died, their sons kept on with the work, and now we have a fine country, the United States of America.

Children of first-grade age enjoy a serious song in which they can join the older ones for chorus singing. "America" is preeminently interesting to them.

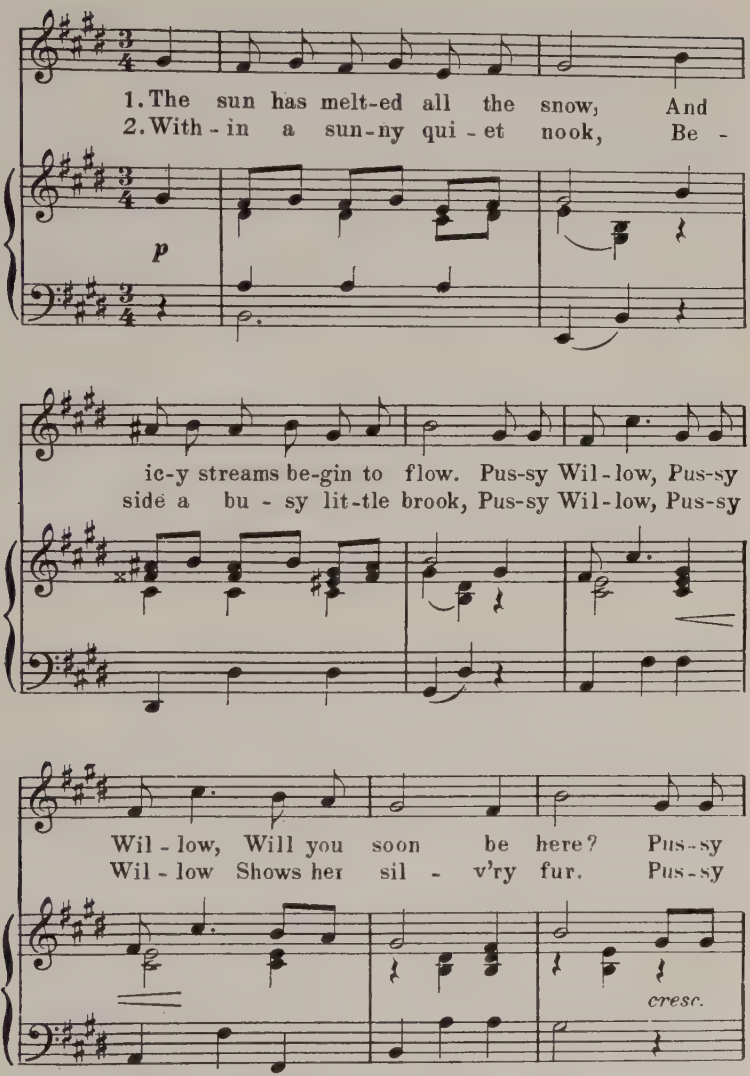
Excellent voice-placing material suited to the thought of the month is:

(From "The Battle Hymn of the Republic")



The most limited voice is lifted out of its limitations by this inspiring *loo* on $\overline{E}$ in the word "hallelujah."

Pussy Willow



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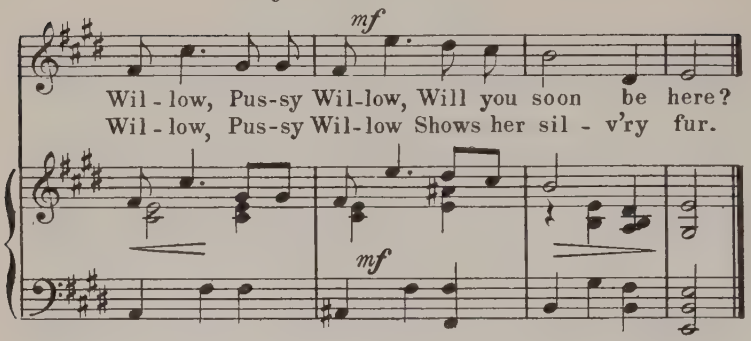
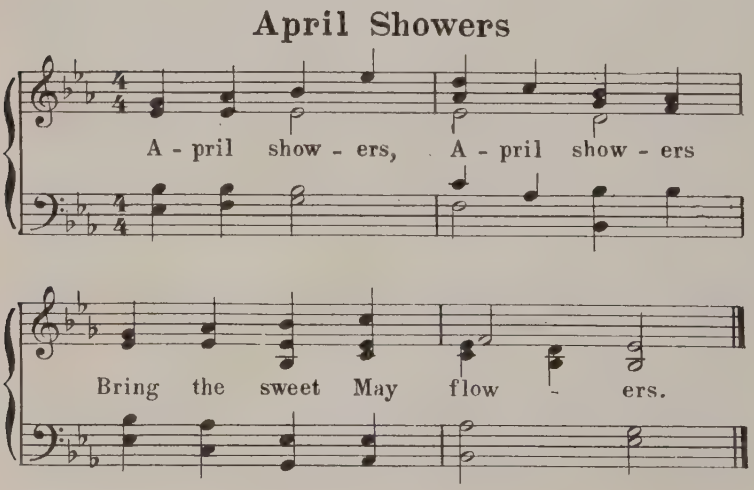
Pussy Willow *(Continued)*



MARCH

In March, thought turns to spring joys and their normal expression in song. It is well to have certain art songs in repertoire whose sole use is their esthetic effect. They are not analyzed for rhythmic study or for tonal drill but are sung for pure enjoyment without comment. The pussy

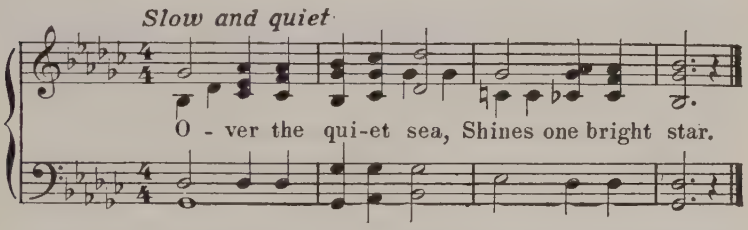


willow, being unfailingly charming to children, lends itself to such song. (See the song "Pussy Willow," p. 249.)

APRIL

The short song for individual singing is encouraging to the little singer. With it the teacher may most easily achieve this necessary feature of training. The song "April Showers" on the preceding page is a good example of this type.

Sustained tones accentuate the need of normal voice placing and give the child an opportunity for self-criticism.

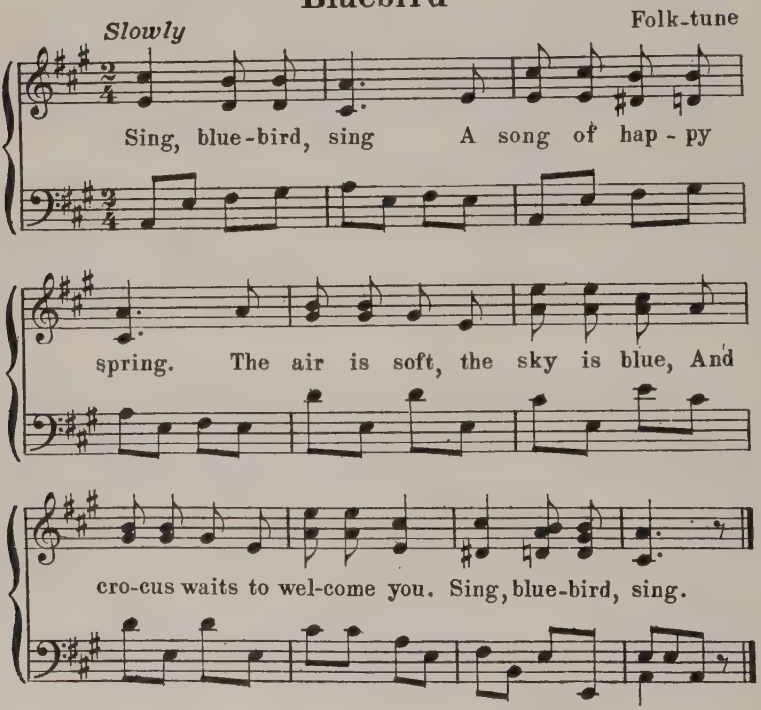


MAY

In work with monotones, *loo* is the specific for most troubles. If *so*, *mi*, *do* is difficult in the key of G, a substitution of *loo*, *mi*, *do* on the same pitches will usually bring success. The difficulty as late in the year as this is usually caused by wrong muscular adjustment. The experienced teacher will look now for a sudden change, a sudden dawning of the knack of singing experienced in the same way as the knack of balance on a bicycle, of floating in the water, of security on skates. It has been known to delay as late as in the fifth grade, but it often comes after the first few weeks of work. Where the attitude of expectation is established early and the work is pursued as a definite part of education, every normal child will learn to "carry a tune" in company with others. There seems to be an urge toward singing in the joy of spring which reacts strongly on the retarded children. "Bluebird" has been the vehicle for numerous promotions.

Bluebird

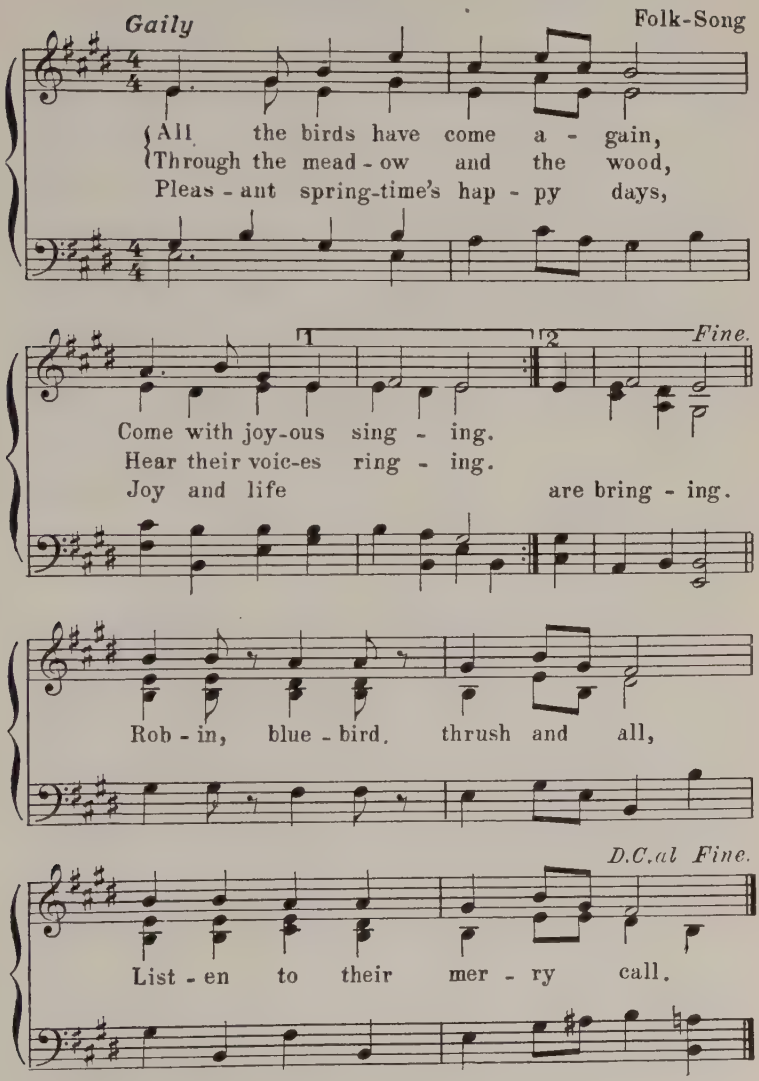
Slowly Folk-tune



JUNE

For June celebrations, a familiar folk song brimful of life and vigor brings out the best in the children's voices and insures delight in its rendition.

The Birds Have Come



CHAPTER FIVE

MUSIC IN THE SECOND GRADE

WITH the background gained through experience with fine vital melody, children are intelligently ready to grasp the simpler problems of reading through observation of the printed page. Their own initiative leads them on to discover facts connected with the notation of rhythm and melody, especially where it concerns a song which they have sung with appreciative pleasure. Present in every phase of their study must be this element of satisfaction in musical content. Even the daily drills used in vocal practice should have their charm of tone quality and rhythmic movement.

An outline for the teaching of music in the second grade follows. It is taken from the Report of the Educational Council mentioned in Chapter IV, page 229.

AIMS

(a) The aims of the first year again, namely: continued curing of "monotones" (to give every child the use of his singing voice); development of song-singing; enrichment and extension of song repertory; further development of aural power; further development of appreciation, including pleasurable attention to the expressive features of song and the beauties of musical structure.

(b) To continue the development of the power to recognize aurally simple phrase groups of tones and the feeling for simplest rhythms. The introduction of the staff may occur as early as the middle of the first year or as late as the beginning of the third year depending upon the order of procedure.

MATERIAL

(a) Rote-song books in the hands of the teacher.

(b) Books containing easy rote songs (some of which may be in minor keys) and the simplest melodies in the

usual nine major keys to be used in the development of sight singing, if begun; the latter group, at least, to be printed in large type and open distribution on the page; and both groups to be in books that are placed in the hands of the children.

(c) Some large display form of material that is to be studied; either in some chart form or on blackboard.
(d) A pitch-pipe and a staff-liner.
(e) A keyboard instrument for playing accompaniments.
(f) A phonograph and some 25 records of good music.

PROCEDURE

(a) Singing rote songs for pleasurable musical experience.
(b) Imitative exercises for curing so-called monotones.
(c) The use of the staff in practicing or preparing for sight singing.
(d) Frequent practice in individual singing.
(e) Ear training for the development of tonal and rhythmic thinking.
(f) Occasional use of accompaniments to songs previously learned.
(g) Learning to listen to good compositions for the sheer joy and charm of their beauty. Also to listen to the salient features of the imitative or descriptive phrases involved; and to the simple arrangement of recurring phrases or "tunes" and rhythmic patterns in compositions.

ATTAINMENTS

(a) Ability to sing correctly and pleasingly 40 to 60 new songs, 20 of which are to be memorized and which shall include two stanzas of "America." It is also suggested that some of the songs of the first year be kept in repertory.
(b) Ability of 90 per cent of the pupils to sing individually, freely, correctly, and without harmful vocal habits 6 or 8 of the songs sung by the class as a whole.
(c) Not more than 5 per cent of the entire class to be "monotones" at end of year. The other pupils to sing without bad vocal habits, with musical enjoyment, and with good musical effect.
(d) Ability by end of year (or by the middle of the following year, according to procedure) to sing at sight, with syllables, easy melodies in the usual nine major

keys, containing notes and rests one, two, three, and four beats in length, and employing diatonic tones in stepwise progressions and with simple skips.

(e) Ability to recognize some 5 or 6 good compositions on hearing the first few measures of each; to follow and recognize a recurrent theme in a new song or new piece of very simple structure; and a tendency to prefer compositions that have real musical merit and charm to those that are weak or common.

TEACHING PUPILS TO READ MUSIC

As soon as second-grade children have gained some facility in reading words, a song book is put into their hands. This book should be printed with large type openly distributed on wide staves, to facilitate observation. Songs to be used as introduction to sight reading should have one phrase to a line. Books fulfilling these requirements are:

Songs of Childhood, Music Education Series. Boston, Mass.: Ginn and Co.

Primary Song Book for Sight Reading, The Progressive Music Series. Newark, N. J.: Silver, Burdett and Co.

The Congdon Music Readers, *Number One* and *Number Two*, Revised Editions. New York: C. H. Congdon.

Observation of the songs in such textbooks awakens a keen interest in printed symbols which now may be presented in a sequence of simple problems shown on the blackboard.

STEP I

The four different notes which children see in their songs are written on the board and named, whole, half, quarter, and eighth notes. Their duration is shown by means of pulse-swings drawn under each. The whole note has four pulses, the half note two, the quarter note one, and the eighth note only half a pulse. These are sung in accurate time with a neutral syllable on the pitch A or B. The children may make a chart of these.

STEP II

The scale of E♭ is written on the board with whole notes. Children sing it. Whole notes being changed to half notes by the addition of stems, the scale is again sung. The half notes are filled in to change them into quarter notes and again sung. Flags are added to the quarter notes and an eighth note scale is sung which proves exhilarating. This exercise is frequently repeated at the children's request, thus impressing an important fact upon their minds. With widely ruled staff-paper, charts are ultimately drawn showing the four scales.

STEP III

The children turn to a given page in their books and sing the familiar two-pulse song. The teacher draws a G clef on the staff, and beside it places the meter signature $\frac{2}{4}$. It is explained that the figure 4 stands for quarter notes and that this song is divided into measures with two quarter notes in each. The word *bar* is given and its use explained. A child counts the measures in the song.

Teacher: How many different kinds of notes are in this song?

Child: Two. Quarter notes and half notes.

Teacher: Why is one half note enough to fill a measure?

Child: Because you keep on singing it for two pulses.

At the next lesson a familiar two-pulse song having three different kinds of notes is referred to. After it is sung, observing the notation, the teacher asks why it is correct to have four eighth notes in one of the measures.

Child: Because an eighth note has only half a pulse and you can hurry four of them into the two pulses.

The $\frac{3}{4}$ and $\frac{4}{4}$ meters are taken up by reference to the simpler rote songs in the children's textbook. The dotted half note is necessarily included in their category and added to their chart.

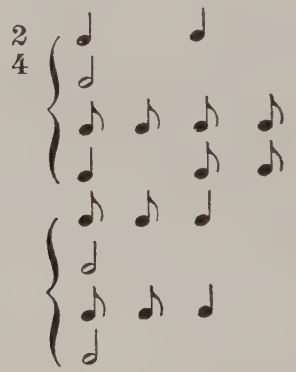
STEP IV

Drill on time symbols results in a game which the children enjoy, the slowest minds being drawn into the exercise.

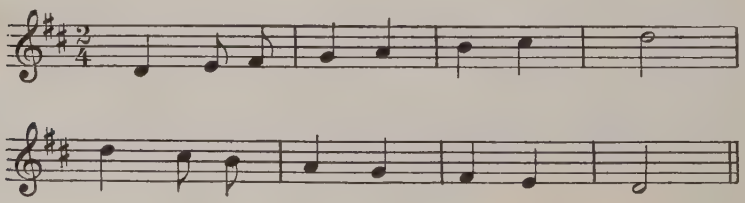
Whole, half, dotted half, quarter, and eighth notes are drawn on the board with their equivalent pulses drawn under each.

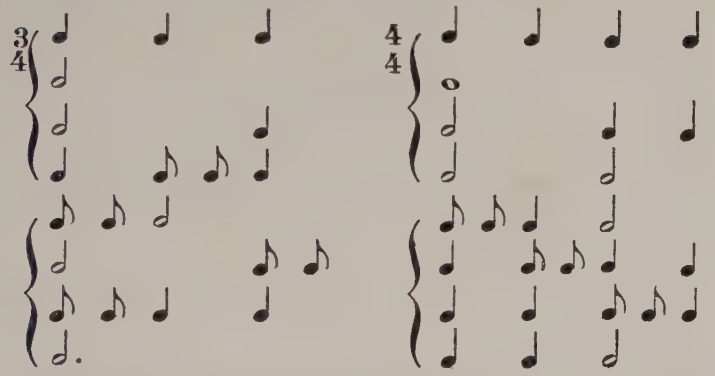
Teacher: If we were writing a song in $\frac{2}{4}$ time, what notes could we use to fill the measures?

The teacher writes as the children suggest.

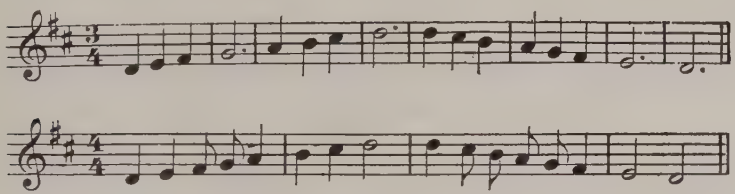


As the list is to be sung in accurate time with a neutral syllable, the teacher adds enough repetitions of the children's suggestions so that they will form two phrases of four measures each.

There is an element of creative play in this drill which gives it a charm. A musical application of the idea uses the major scale.

Typical lists given for $\frac{3}{4}$ and $\frac{4}{4}$ meter are:



The teacher points in exact rhythm as the children sing. Considerable freedom is allowed in the matter of joining in the singing, as hearing and observing the accuracy of the more gifted children is useful. The scale applications are not taught by rote but furnish the first step in independent sight reading.



Rests are added to the children's list as they appear in their rote songs.

SINGING FROM THE SONG BOOK

The children are now equipped with knowledge which enables them to observe intelligently the printed page. For convenience they are given the word *phrase* and told that each song is divided into phrases, one phrase of which is printed on a staff.

Teacher: This is a fine song about a great strong bird that flies high in the air. It is called "The Bird Soaring"; that means mounting higher and higher, and seeming to sail.

Child: Like an airplane.

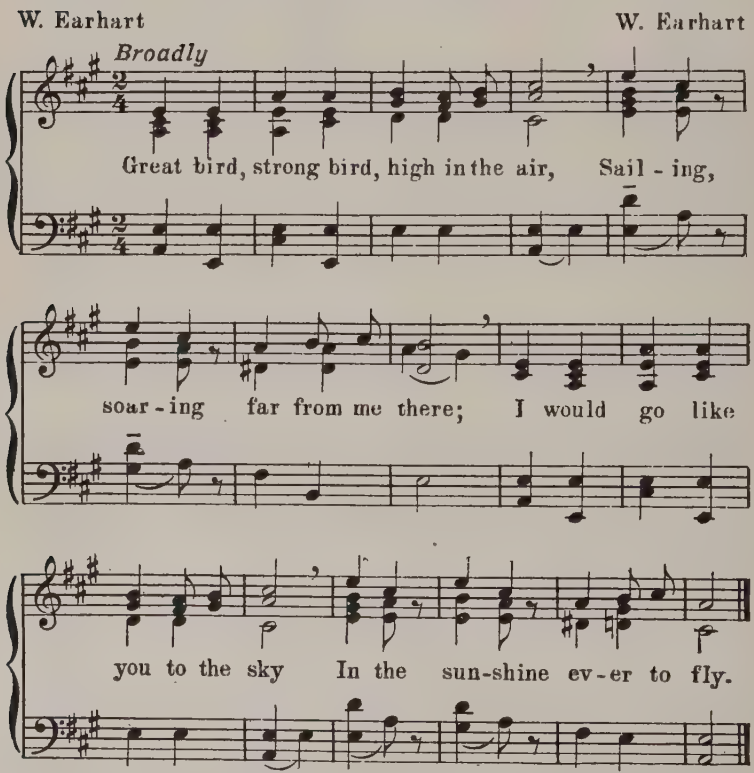
Teacher: I wonder what kind of a bird he might be.

Children: Eagle—hawk.

The teacher reads the words expressively.

Teacher: This song has two quarter notes in each measure,

The Bird Soaring



From The Progressive Music Series, *Primary Song Book for Sight Reading*, by permission of Silver, Burdett and Co., publishers, Newark, N. J.

$\frac{3}{4}$ time. What other kinds are used to make the rhythm a pleasant one to sing and to hear?

Child: Eighth notes and a half note.

Teacher: I see two phrases alike. Do you?

Child: The first one and the third one.

Another Child: Yes, and the other two are nearly alike.

Another Child: All but the last note.

Teacher: Who can read the words of this song?

Hands are raised and a good reader is chosen. The teacher sings the song, "The Bird Soaring," with expert enunciation and phrasing.

Teacher: I wonder if Dicky (a monotone) can sail up here with that bird. (Sings *soaring* on its pitches, Dicky approximates.) Try it with *loo.* (Successful result.) Everyone sing *Sailing, soaring.*

The teacher sings the song again. The children repeat.

This song, having been mastered by rote singing, is later chosen for the observation leading to rote-note reading.

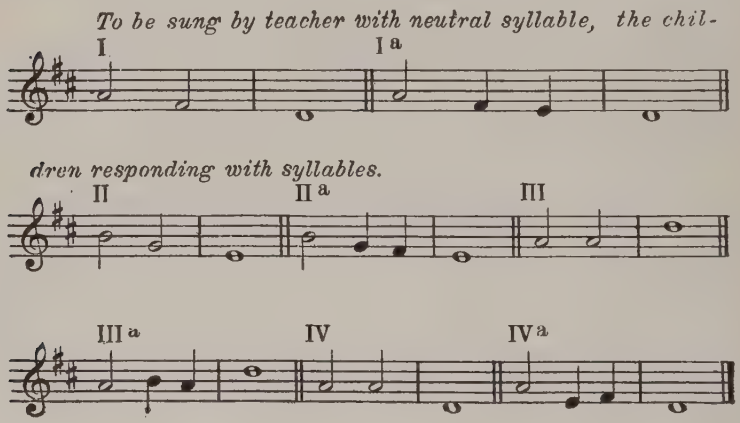
The teacher sings the first phrase by syllables; the children repeat. If they are not successful, the model is again given. The second phrase is treated similarly. The third may be attempted without the teacher's model. The fourth is given by the teacher. The whole song is sung by syllables; children repeat. This procedure continues until the class is able to sing the whole by syllables correctly. From now on, all songs are treated in this manner:

1. Learned with words by rote.
2. Similarity of phrases discussed.
3. *Do* located by the teacher.
4. Syllables of each phrase taught by rote.
5. The whole song sung by teacher for imitation.
6. The whole song sung by the children by syllables.

If the class is large, it is well to divide it into sections for this work, each section containing a proportion of the model chorus, the dependent singers, and the monotones. In finished songs the entire class sings together. Testing the mastery achieved is best done by choosing a simple song and

allowing individuals to sing alone, first with words and afterward by syllable. In some schools all technical work except rhythm drill may be postponed to the third-grade program, but if rote singing has been pursued through kindergarten and first-grade training most children are eagerly ready for suitable introductory problems of reading and writing.

The sequence of figures used for monotone drill and inevitably learned by the class now serve as a basis for practice in aural recognition of tone groups. They may be varied in many ways.



As the children grow fluent in applying syllables, the figures given may increase in difficulty, but must present always a pleasing musical idea.

CHAPTER SIX

MUSIC IN THE THIRD GRADE

THE singing of songs has now become an expression of the best side of the child's individuality. Something in his nature is satisfied thereby directly and intensely. A world of order and beauty is opened up to him with which he has actual and intimate contact, and the happiness of his life is strongly affected by his experience. A sense of growing independence in coping with the problems of reading and notation brings an intellectual satisfaction which creates respect for music as a study. Perhaps no subject in the curriculum requires more concentrated effort than does the sight reading of music, especially to the less gifted children; but with the constant stimulus of fine musical content found in rote songs, and occasionally in the reading material itself, the interest of the class will remain intact.

The following outline for teaching music in the third grade is taken from the Report of the Educational Council mentioned in Chapter IV, page 229.

AIMS

(a) Continued correction of "monotones"; development of free and beautiful singing of songs; development of the song repertory along lines appropriate to the taste and expanding powers of the children; development of aural power and extension of it to new features; further development of appreciation, particularly in the direction of pleasurable attention to the expressive and structural beauties of music.

(b) Development of an elementary degree of power and skill in independent sight singing.

MATERIAL

(a) Books of music in the hands of the pupils; these books

to contain three types of musical material, namely:
(1) Rote songs of appropriate interest and elaborateness;
(2) Songs that may be taught partially by rote and partially by reading;
(3) Easier material for sight singing.
All of this material, with the possible exception of the first group, should be printed in large type and open distribution on the page.

(b) Blank music paper or music writing books ruled with a wide staff, in the hands of the pupils.
(c) A keyboard instrument.
(d) A pitch-pipe and staff-liner.
(e) A phonograph and 25 good records.

PROCEDURE

(a) Singing rote songs for pleasurable musical experience.
(b) Systematic practice in sight singing.
(c) Ear training for the development of tonal and rhythmic thinking.
(d) Individual song-singing and sight singing; each child to sing individually at least once a week.
(e) Liberal use of a keyboard instrument for illustrative purposes and accompaniments, but not for leading.
(f) Listening to good musical compositions as largely unanalyzed musical experience; observation or analysis to be largely in connection with the songs sung, but also in some degree with the larger compositions heard; and to consist of features of structure or design, such as observing recurrences of themes, sequences, and variations on them, etc.; and to be pursued in the spirit of recognizing the beauty and charm of such features of musical design.

ATTAINMENTS

(a) Ability to sing correctly and pleasingly 40 to 60 new songs, at least 10 of which shall be memorized, and which shall include the four stanzas of "America." It is also suggested that some of the songs of the preceding years be kept in repertory.
(b) Ability of 90 per cent of the pupils to sing individually, freely, correctly, and without harmful vocal habits, 8 or 10 of the songs sung by the class as a whole.
(c) The "monotone" to be practically eliminated. Individ-

ual attention should be given to special cases.

(d) Ability by end of year to sing at sight, by syllables, easy melodies in any of the usual nine major keys; these melodies containing stepwise progressions and skips of 3ds, 4ths, 5ths, 6ths, and 8ths and employing at least notes and rests one, two, three, or four beats in length, and two notes to the beat; also knowledge of some twelve of the more familiar signs and terms used in connection with staff notation.

(e) Ability of at least 25 per cent of the pupils to sing as well individually, at sight, as the class can sing as a whole.

(f) Power that enables the pupils to recognize by sound that which they know by sight, and vice versa; i. e., "see with the ears and hear with the eyes."—Luther Whiting Mason.

(g) Increased power to attend to, and give account of, the salient points of design in the music introduced, and increased sympathy for, and pleasure in, those factors that make for charm of musical design and expressive quality; also, ability to recognize and identify some 8 or 10 standard musical compositions when the first few measures of each are played.

The children are again seated in three groups, the model chorus toward the back of the room, the dependent singers in front of them, and the least able in the front row near the teacher. Each year's work begins with a brief review of all technical steps previously taken, thus providing a satisfactory basis for the new problems incurred in connection with the preparation for sight reading.

DEVELOPING SIGHT READING

If the rote-note procedure in reading by syllable has not been taken up in the latter part of the second year, it will be pursued for several weeks in the third year. Rote-note reading, in which the children are taught to imitate the teacher in applying syllables to the melody, is an essential link between observation of the printed page and independent sight reading. Through it children unconsciously gain that ability to

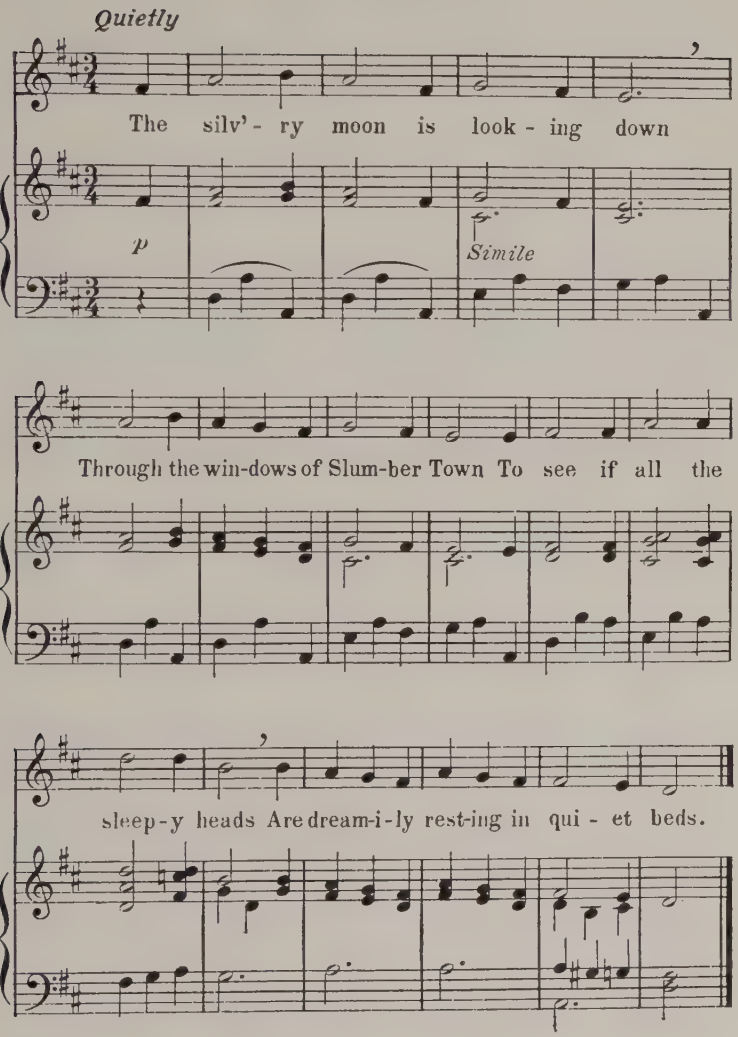
associate sound and name which enables them to decipher new material.

To test and reinforce quick recognition of intervals and figures, drill cards[1] are available, printed with such musical vocabulary as often recurs in the simpler child songs. The use of these inculcates the visual habit of grasping several notes at a glance. Fluent sight reading depends upon this habit. Ultimately children will read by phrases rather than note by note. To accomplish this, the device of comparing the phrases of a new song is useful. The first phrase is called *a*. All similar phrases are called by the same letter name. Those wholly different are called *b*, *c*, *d*, etc. Those slightly differing are termed *modified*. Children learn to use these terms easily and with them obtain a grasp of the trend of a new song, which is helpful.

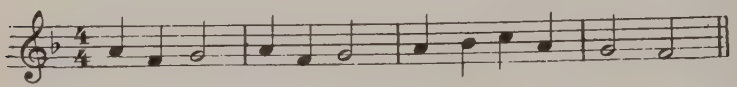
In approaching such a song as "The Moon" the class is called upon to analyze by phrases. The result is: *a*, *a modified*, *b*, *c*. The study of key-signatures and the building of scales should be deferred to later grades, but at this time it is convenient to know the names of the lines and spaces of the staff. Through board exercises and rote-note reading the children have perceived that *do* may be located on any line or space. They are told that the place of the *do* names the key in which we sing. The names of the spaces are F, A, C, E. The space below and the space above, D, G. The lines are named E, G, B, D, F. Since the spaces of the staff spell a word, their names are easily learned. The spaces below and above may be remembered by a sentence: *Do good.* A sentence to impress the names of the lines is *Every good boy deserves fun.* If a pitch lower than the space below the staff is needed in a song, the staff may be enlarged by a short line added below on which the note C may be placed. To drill the pitch names the teacher may write the letters on the staff and the children sing by letter from C to G ascending and descending. If words are spelled by means of notes on the

[1] Van B. Hayden, *School Music*, Keokuk, Iowa.

The Moon


Quietly
The silv'- ry moon is look - ing down
p
Simile
Through the win-dows of Slum-ber Town To see if all the
sleep-y heads Are dream-i-ly rest-ing in qui - et beds.

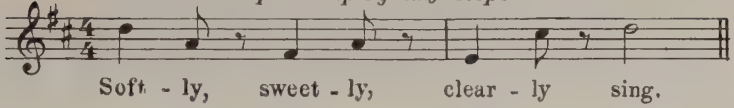
staff, the children must realize they are having letter drill, not music.

One useful device for gaining the ability to handle notation is the weekly writing lesson. The teacher writes on the board a suitable four-measure melody, as:

The location of the keynote is indicated by a cross. The teacher sounds *do*. The children sing *mi*. The melody is read by groups with assistance if necessary. It is repeated by the class until it is familiar. They sing looking away from the board to test their memories. After another moment of study the teacher erases all but the signatures and the first note, whereupon the children notate their melody with the intent of handing in for correction a neat manuscript.

This exercise carries over into home interests, the melody being rewritten at home for the family to sing. The material for memorized notation ordinarily has two similar measures and uses the simplest intervals. A certain sense of mastery gained from the definiteness of notation work reacts favorably on independence in reading.

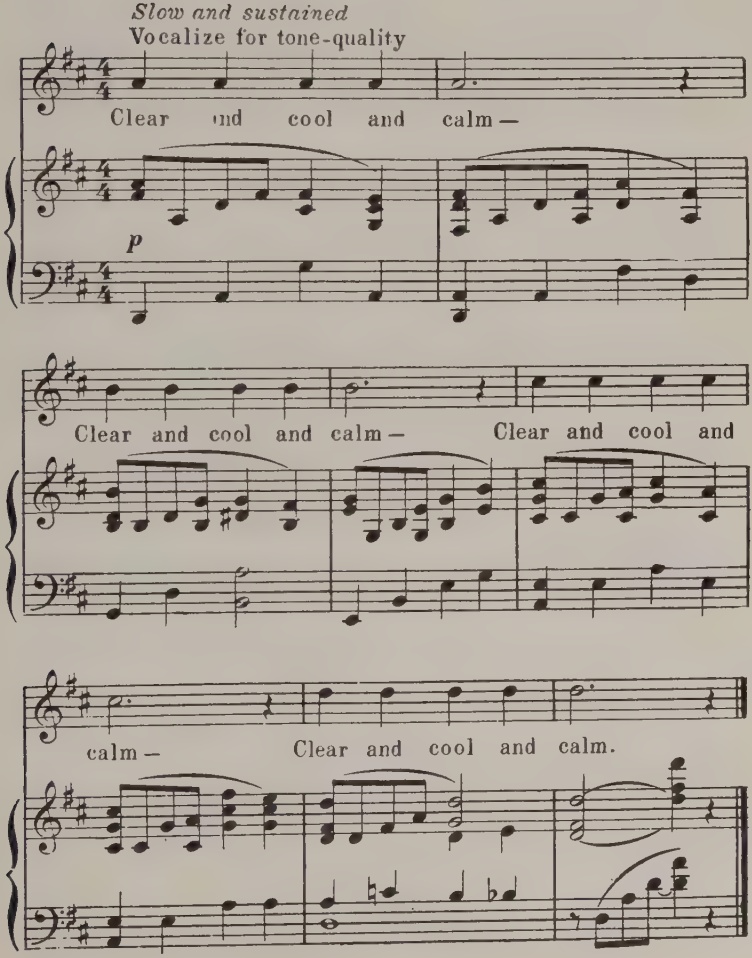
In undertaking to decipher such a sight-reading song as "The Moon," the children are led to discover for themselves so far as possible the necessary facts. They analyze the phrases—*a*, *a modified*, *b*, *c*. They are told that the last note of the song is *do*. They name the key. The teacher gives the pitch. They announce *mi* as the initial pitch, and sound it. Until some freedom is achieved in sight reading it is well to allow the best singers to read the new song first. At a later lesson the same song may be again read by groups and by individuals. Opportunities for individual singing of syllables and of words must often be given. Class tone is likely to suffer under the exigencies of note reading and must be reinstated by daily use of vocalizes and familiar songs.

To be transposed up by half-steps



Clear and Cool

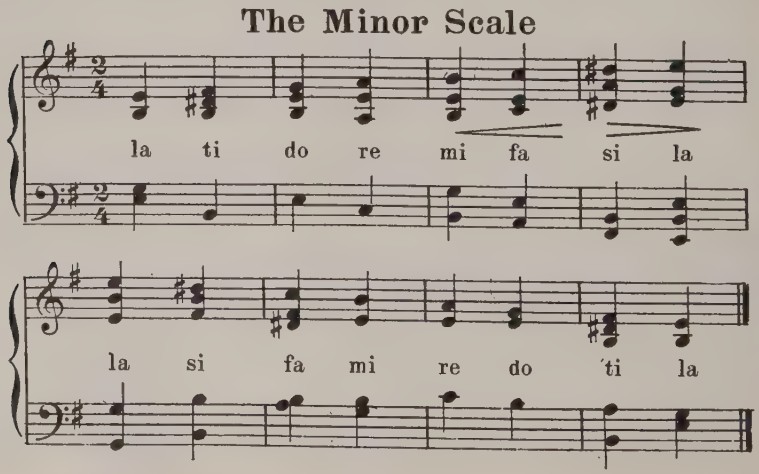
Slow and sustained
Vocalize for tone-quality



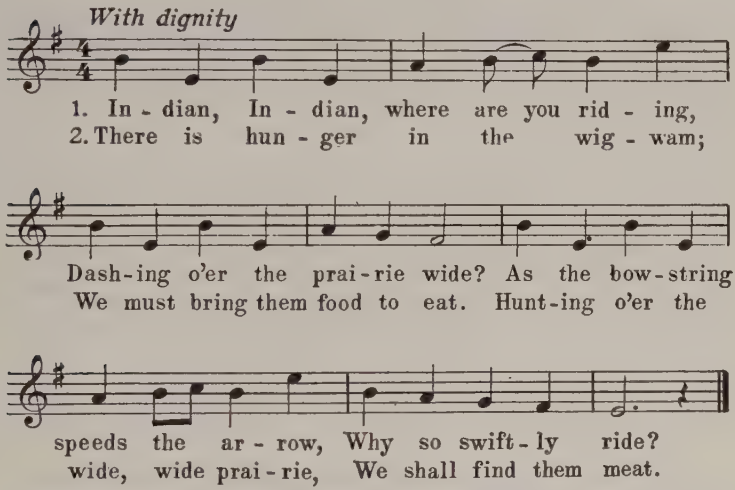
COMPLETING MONOTONE CURE

It is not possible to foresee what song in the class repertoire will be the vehicle for monotone cure and thus complete that phase of the work. In a third-grade class under observation, the songs which enabled the last two members of the monotone group to be promoted were "O'er Our Fields" (French harvest song) and "America the Beautiful." It is the child's personal reaction to the quality of a song rather than to any special melodic structure that finally opens the deaf ears and loosens the dumb tongue.

THE MINOR MODE

The minor mode brings with it a charm to which the children quickly respond. Minor rote songs have been sung throughout the primary grades, but at the appearance of one to be used in sight reading it is well to discuss the character of the underlying scale and explain why the home-tone of a minor song is *la*. With the syllables of the major and relative minor scale so written on the board that the wide interval between *fa* and *si* is visualized, the teacher sings:

The use of this plaintive scale is brought out by reference to familiar rote songs. Children may be led to give their concept of subjects properly expressed by minor melody: night, sadness, strange people. A typical song for illustration is

Indian Hunter



From the Music Education Series, *Elementary Music.* Used by permission of Ginn and Co., Boston, owners of the copyright.

Simple exercises from a chart or written on the board should be used to stress *la, do, mi* until the feeling of repose on *la* is established.

THE CHROMATIC SIGNS

As the work of the year proceeds an added enrichment of melody appears in observation songs by the use of modulations into neighboring keys. At this time the use of chromatic signs is taught and the signs *sharp, flat,* and *natural* are given. The status of the class will decide whether discussion shall be carried on beyond satisfying the demands of the children themselves with regard to these signs.

HELPS FOR THE RURAL TEACHER

In schools where eight grades are to be handled by one teacher, the sequence of technical work prescribed in the foregoing pages may proceed as slowly or as fast as the response of the children permits. The work is simplified by dividing the class into two groups, one composed of the primary grades, the other of the older children. Song singing is best carried on by both groups together since volume of tone enhances the pleasure in chorus work. At first the use of favorite songs such as "My Old Kentucky Home," "Old Black Joe," "America," induce all the children to join in the singing and produce the atmosphere necessary to initiate a plan of technical procedure. Two excellent textbooks for use in rote and sight reading are:

A One Book Course in Elementary Music and Selected Songs for Schools, by C. A. Fullerton. Cedar Falls, Iowa: Fullerton and Gray.

One Book Course, The Progressive Music Series. Newark, N. J.: Silver, Burdett and Co.

MUSIC APPRECIATION

It is hoped that every rural school teacher may have periodic visits from a supervisor who is equipped to give a rousing lesson in music appreciation. With the beautiful phonograph records available, every school should have its gradually increasing repertoire of songs and instrumental selections to be heard again and again. Familiarity with fine music enhances its charm to the individual and is of inestimable cultural value. One plan which develops attentive listening provides records[1] of songs with which the children have become familiar in their daily lessons, the melodies being played by orchestral instruments of clear and lovely tone.

Such a song as "Whippoorwill" (see p. 195) which the children have sung and enjoyed they may now hear beauti-

[1] *Music Appreciation Records.* Boston: Ginn and Co.

fully recorded by a clarinet. This gives an opportunity of concentrating attention on the clarinet tone, the teacher showing a picture of the instrument and suggesting the method of its playing. "Six Little Pigs" (see p. 285) is recorded by a trumpet whose tone the children soon differentiate from that of the clarinet to which they have been listening. The picture of the trumpet is shown and the method of its playing discussed. Other instruments are studied in similar fashion with the intent of developing discriminating listening and arousing an interest in a wider phase of music study.

CHAPTER SEVEN

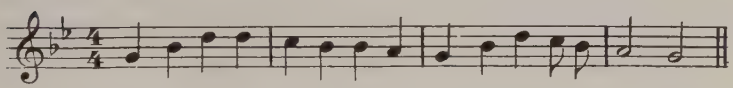
CREATIVE ACTIVITY IN MUSIC

THE school child of today, from the kindergarten on through the grades, is frequently given an opportunity for self-expression. Paper and colored crayons are provided for drawings; clay or plasticine for modeling; and materials for elaborating a project in building farms, city streets, primitive life, for describing an experience, for writing a poem or a story. He is encouraged to give forth his ideas in many modes and through this activity to gain a wider horizon.

Perhaps no other channel of self-expression reacts with a greater thrill than that of singing an original song. At times such a song is a spontaneous outburst, words and music being born together in some crisis of the child's consciousness. Sometimes a song is the composite production of various members of a class under a teacher's guidance, but however it is produced the result is a thing of pride and joy and makes for a wider interest in music and all its activities.

The idea of composition is so fascinating to children that if all their suggestions were carried out too many of the periods allotted to music study would be absorbed thereby. But under certain restrictions the time thus expended is amply justified by the resultant motivation. It has frequently been noted that an original class song is the first that a monotone sings in tune. The urge for song writing becomes most compelling when subject-matter in grade work is dramatic and full of mood and color. The study of Viking history in the third grade at The University of Chicago Elementary School results every year in a group of stirring songs of sea battles, spears, shields, heroes, and Valhalla. The poems are sometimes written at home but more often they are the composite effort of the class in its literature period. One of the best of these is "Foe's Fear" (see p. 292).

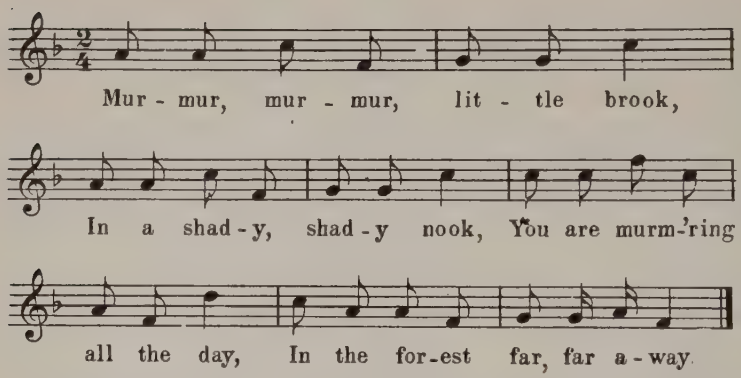
The procedure is the same for all songs to be written in class. The teacher writes the text under a staff on the board. She then calls for a melody for the first phrase. There is no restriction and many voices immediately give their melodic idea. Out of the confused sound the teacher chooses a promising one to be sung individually. If the class accepts it, she quickly notates it over its text phrase. For the second phrase she introduces a restriction by asking that hands be raised to indicate an offering. Usually criticism from the children and suggestions for change and betterment come at this time, but when a satisfactory phrase is given she immediately notates it. The third phrase is worked out in the same manner. The last phrase is generally obvious, several children saying it is what they intended to give; often two or three sing spontaneously the same closing melody.



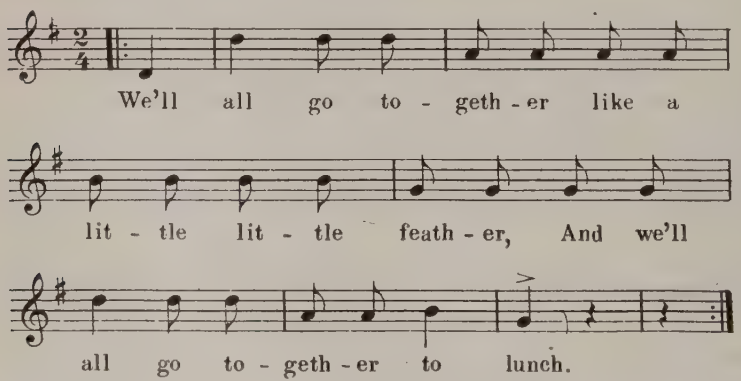
Should the teacher change any part of an original class song, the charm would be broken. It would no longer be the children's own in their estimation, and its use would be gone. Calvin B. Cady, to whom we owe the inspiration for this desirable activity and who himself initiated the work in early kindergartens, stipulates that where possible the teacher is to provide a "rhythmic-harmonic background" for the child's offering. This enhances its value to the child but is not essential. The little songs stand alone, being made up of natural phrases not requiring harmonization, and though defects are obvious just as in children's drawing or modeling, the reaction on the child is desirable.

The words of "Little Brook" were written by a former monotone who suffered from frequent relapses into her earlier habit. This song, however, she sang accurately in tune, due to her pride and joy in the sense of possession.

Little Brook



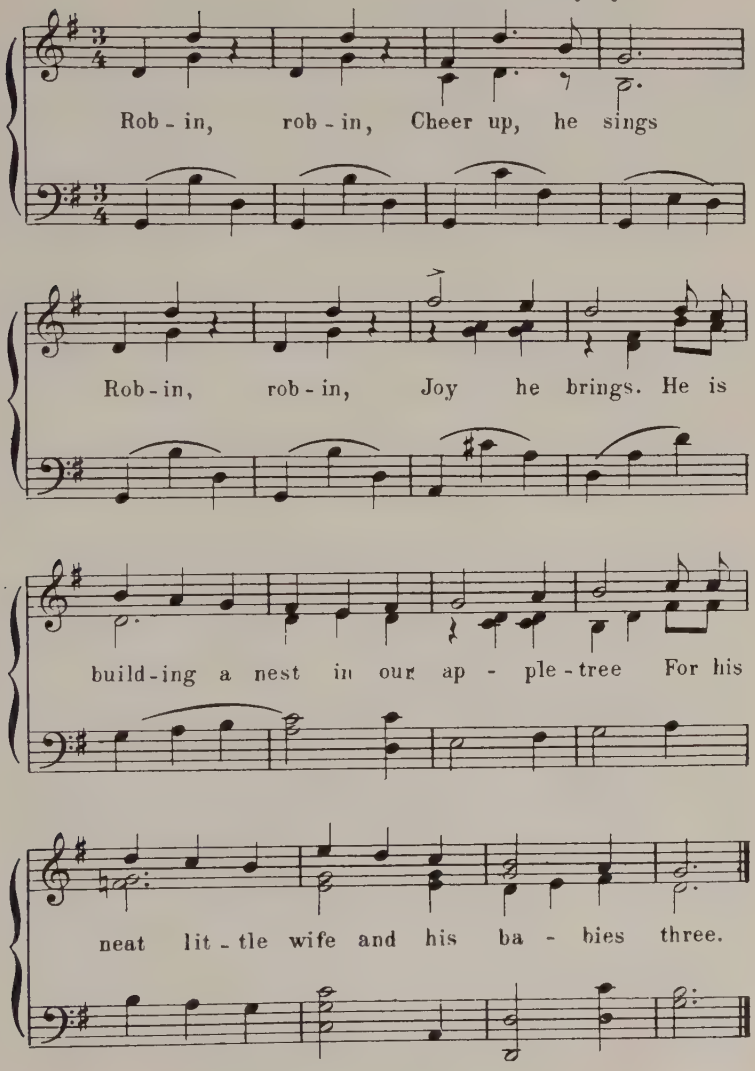
One spontaneous outburst came on the first day of spring when it was warm enough to sit in the school garden. As three first-grade boys gaily set forth with their lunch boxes, one sang a marching song which was immediately adopted by the others and became a popular class song.



A third-grade class produced a book of original poems illustrated by block prints cut from linoleum as an art problem (see p. 133). For the assembly program where they explained this process and read their poems, they had prepared music for several of the verses. Typical of these is:

•Robin, Robin

Words and melody by Grade II[a]



CHAPTER EIGHT

SCHOOL ASSEMBLIES

THE school assembly is a natural outgrowth of school activities and should always have in view two distinct aims:

1. Social.
   - *a.* To share information of interest to the pupils.
   - *b.* To build up habits, emotions, and attitudes and to give social value to information and artistic expression.
   - *c.* To teach cooperation, initiative, and the assumption of responsibility.
2. Cultural.
   - *a.* To stimulate clear thinking and clear expression.
   - *b.* To give entertainments of artistic and cultural value.
   - *c.* To eliminate self-consciousness.

The varying types of assemblies should not only afford conscientious teachers occasions to teach needed lessons in health, patriotism, music appreciation, and school citizenship, but also should permit the pupils really to enjoy the numbers on the programs. It is clear that the mere presentation of memorized poems, declamation, or set speeches by the pupils can never give the tone and atmosphere to the assemblies which modern education demands.[1]

In a large school every class should be responsible for a certain number of assemblies each year, the program being a carefully organized expression of the work of the grade. Such exercises may be delightful and satisfactory in form and spirit, with obvious joy in giving and in listening. They will tend to give even the youngest children a freedom in presenting their material with clearness and taste which will stand them in good stead in the demands of later school life. The

[1] C. W. Holmes, "Assemblies for the Elementary School," *Elementary School Journal.* Chicago: The University of Chicago Press.

conditions surrounding these exercises are ideal for cultivating powers of expression, since there is an audience and a subject in which the child feels he has something of worth to give as information. Instead of interfering with school work, these exercises reinforce and vitalize it.

In the primary grades the opportunity offered for chorus singing of fine rote songs is valuable for its inspiration. Songs which would be beyond the power of first-grade children to sing effectively by themselves become their possession when reinforced by the singing of the two higher grades. Especially in the larger festivals of harvest, Christmas, and spring is this true. Marked improvement in freedom and self-reliance is shown after these experiences.

No grade assembly on a class topic seems complete without one or more illustrative songs. These are prepared with a careful attention to detail that would be difficult to achieve for a less momentous purpose. It should be the effort of the teacher so to plan the children's programs that they shall present an artistic whole without jeopardizing spontaneity and freedom.

VACATION ACTIVITIES

An early assembly program which is enjoyed by the children and gives an exceptional opportunity for free expression is devoted to vacation experiences and impressions. Each teacher sends to the stage a few children whom she has found able to convey a happy vacation mood or to recount an interesting experience. Each uses his own words. There is no formality except in the matter of waiting one's turn. Songs chosen to add charm to the program are from earlier study.

"The Shadow Boat," page 182.
"Blow, Wind, Blow," page 187.
"In the Woods," page 227.
"Over the Quiet Sea," page 251.

PETS

Another informal program in which children join with heartiness is on the subject of their pets. Anecdotes, poems,

songs, and often the presence of the pets themselves provide an opportunity for spontaneity without self-consciousness. Occasions of this sort give excellent social training. Songs correlating with this interest are chosen from their repertoire.

"Pussy Cat, Pussy Cat," page 247.
"Pretty Little Goldfish," page 203.
"Fido and His Master," page 206.
"Little Bunnies," page 198.
"Tommy Tinker's Dog," page 242.
"Visitors," page 243.

PREPARING PLANTS FOR WINTER

A subject lending itself to fine outdoor activity and thus to first-hand knowledge of seasonal changes is the preparation of plants for the winter. An assembly built upon the knowledge and interest clustering about this subject brings much to be told and much material to be exhibited in various organized ways. The mood of autumn is expressed by the use of such songs as

"Good-bye to Summer," page 234.
"Windy Nights," page 282.
"The Kind Squirrel," page 216.
"O'er Our Fields," page 238.

THE FARM

A successful subject for projects during the first semester of the first grade is the farm. The children carry out so far as possible the details of farm construction as developed in the various departments of primary-grade work. When the whole is completed an assembly program gives the opportunity for inviting the children of the kindergarten and the two higher grades to come to the first-grade room and view the result. In their program the children describe methods and materials used for the construction of their buildings, fences, and pens, and illustrate some phases of farm life.

A. The rooster wakes us up in the morning.
   Song: "Cock-a-doodle-doo," page 231.
B. Then we feed all the animals.

C. There is a mother pig and six little ones that we made out of clay in our pigpen. We have a song about them.
Song: "Six Little Pigs," page 285.

D. There are cows on our farm and we bring them into the barn to be milked. One has a bell on her neck.
Song: "Bossy Cow," page 286.

E. Miss Jordan let us make real butter. We each had a bottle with a little cream in it and we shook it up and down, up and down in time to a song we knew. By and by there was a little lump of butter in the bottle. This is the way we did it.
Song: "Churning Song," page 205.

F. That day our mothers came to see the farm and we gave them some crackers with our butter on them.

SHEPHERD LIFE

A topic sometimes emphasized in the second grade is shepherd life, the most dramatic feature of which is nomad life with its desert setting, caravans, camels, expert spinning and beautiful weaving. Often a story is dramatized by the children for their assembly program, and for one of these the poem "Algerian Lullaby" (see p. 287) was selected and set to music.

One of the perennial favorites used at this time is "Spinning Song,"[1] which will be found on page 290.

LIFE OF THE VIKINGS

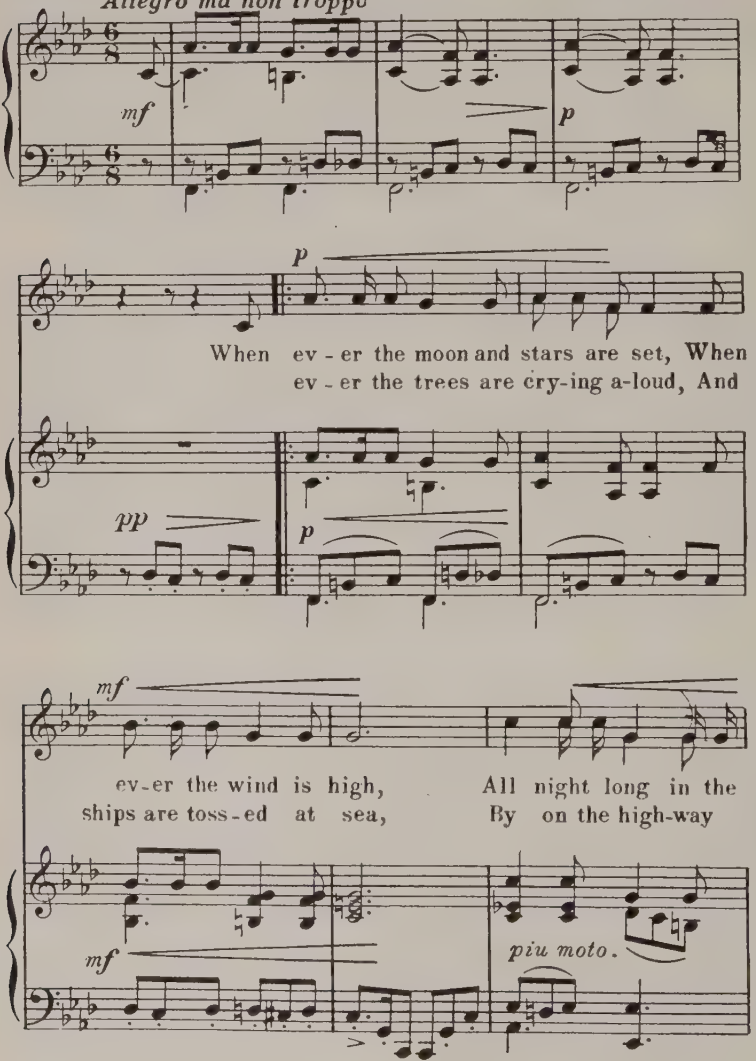
The life of the Vikings is an interesting subject to third-grade children. This subject lends itself splendidly to illustration in drawing and color, but rarely is it possible to find a suitable song to enrich the assembly program. The children surmount the problem by writing their own (see p. 274). In one third grade where the teacher was Norwegian and through early environment and dramatic inheritance was able to convey to her class the thrilling fascinations of Viking history, the children wrote a fine verse which they brought to their music teacher with the request that they be allowed to set it to music. The result well suited the tone of their program (see "Foe's Fear," p. 292).

[1] From the Music Education Series, *Elementary Music*. Used by permission of Ginn and Co., Boston, owners of the copyright.

Windy Nights

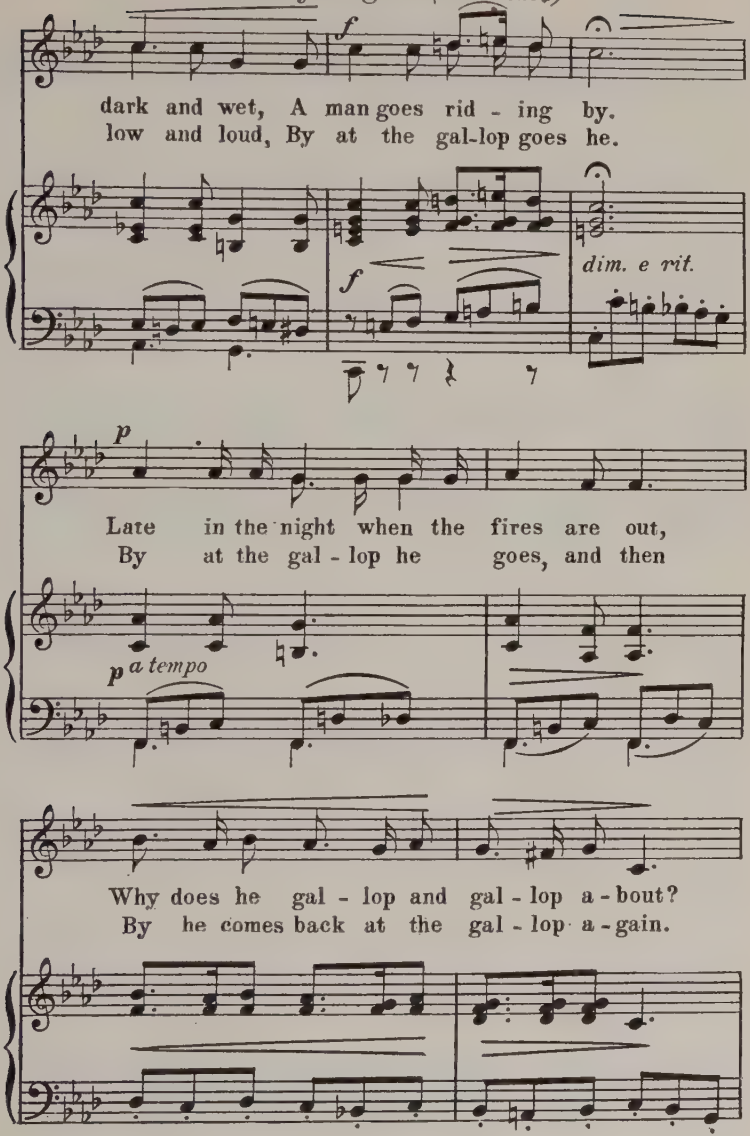
Robert Louis Stevenson — Eleanor Smith

Allegro ma non troppo

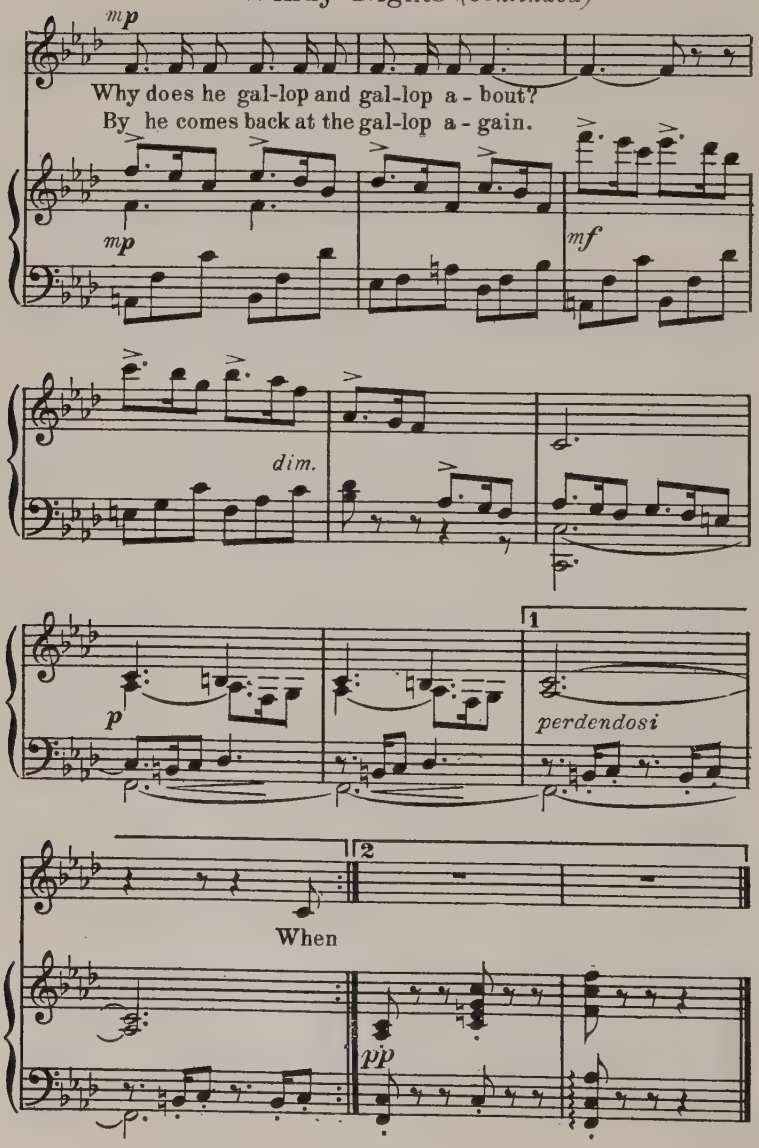


From *Song Pictures*, by Eleanor Smith, by permission of Clayton F. Summy Co., Chicago.

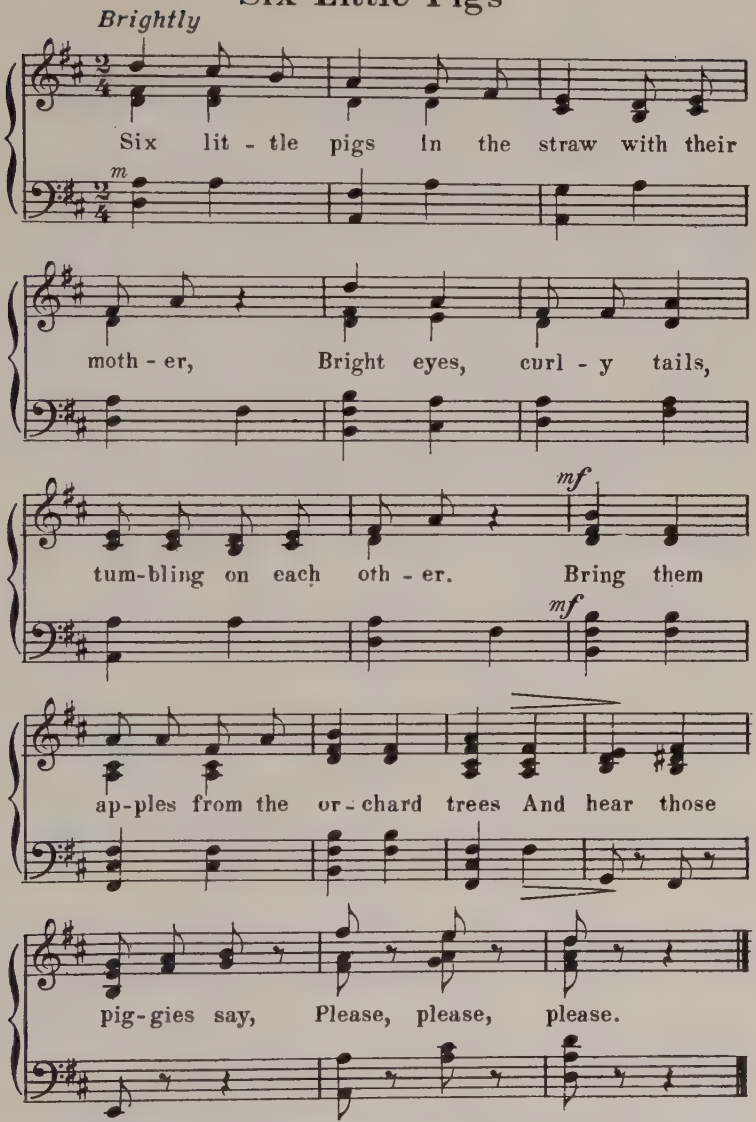
Windy Nights *(Continued)*



Windy Nights *(Continued)*



Six Little Pigs



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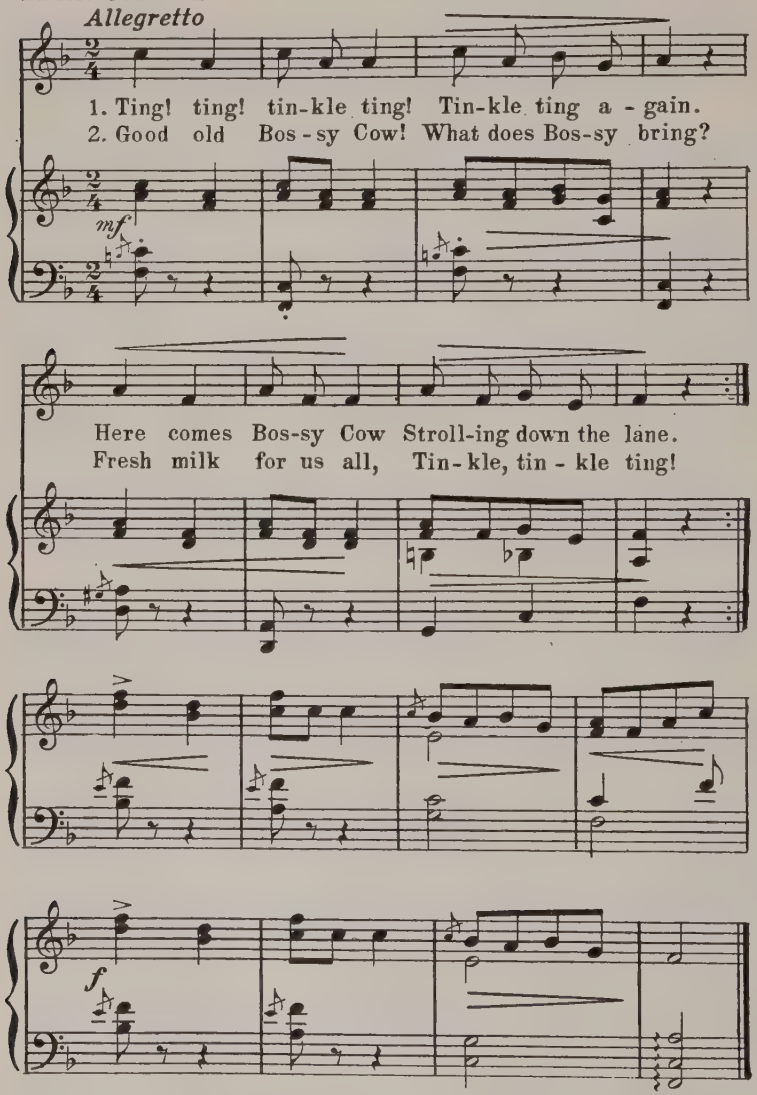
Bossy Cow

Emilie Poulsson — Eleanor Smith

Allegretto



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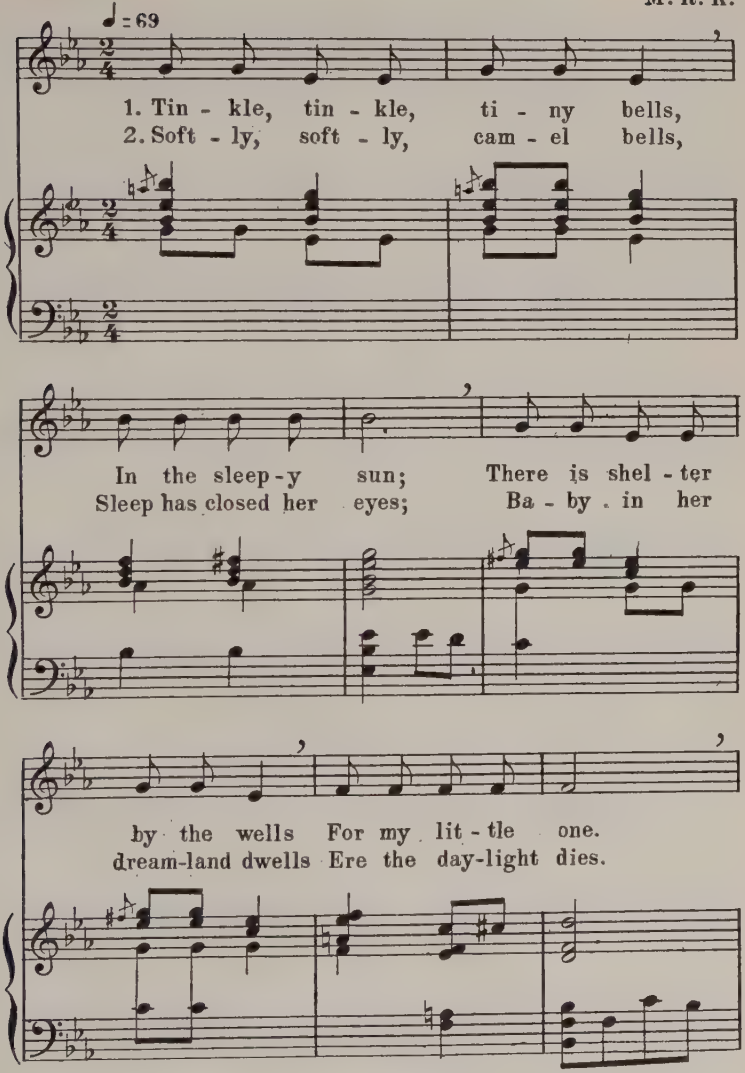
Algerian Lullaby

F. G. B. M. R. K.



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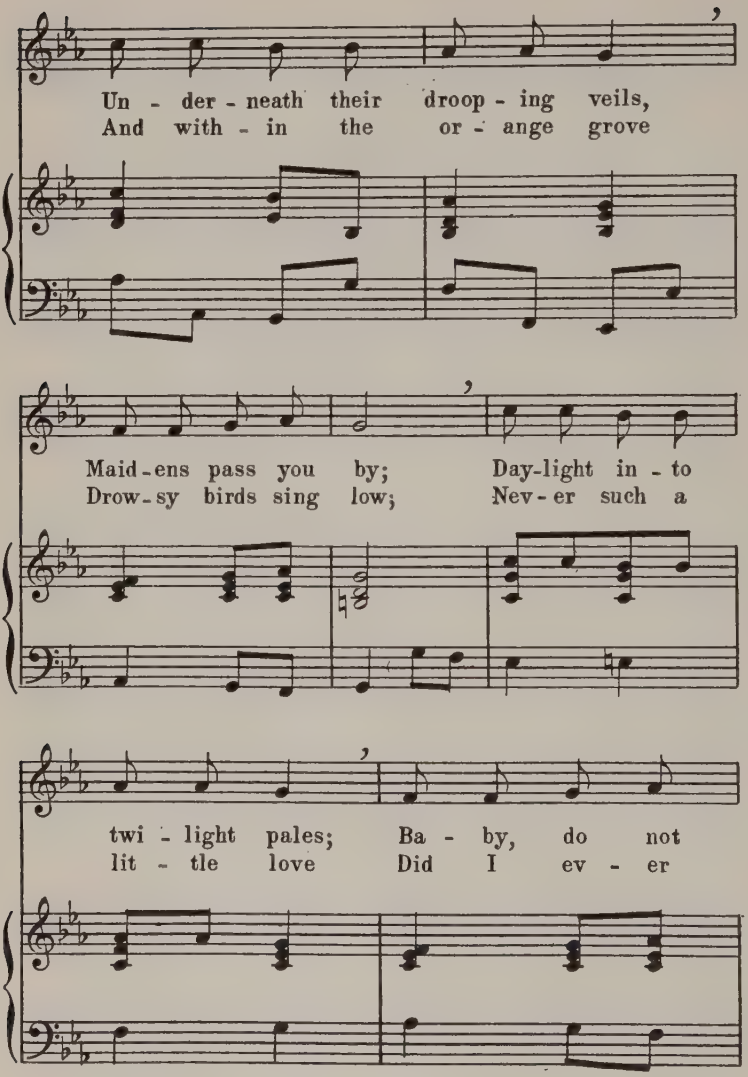
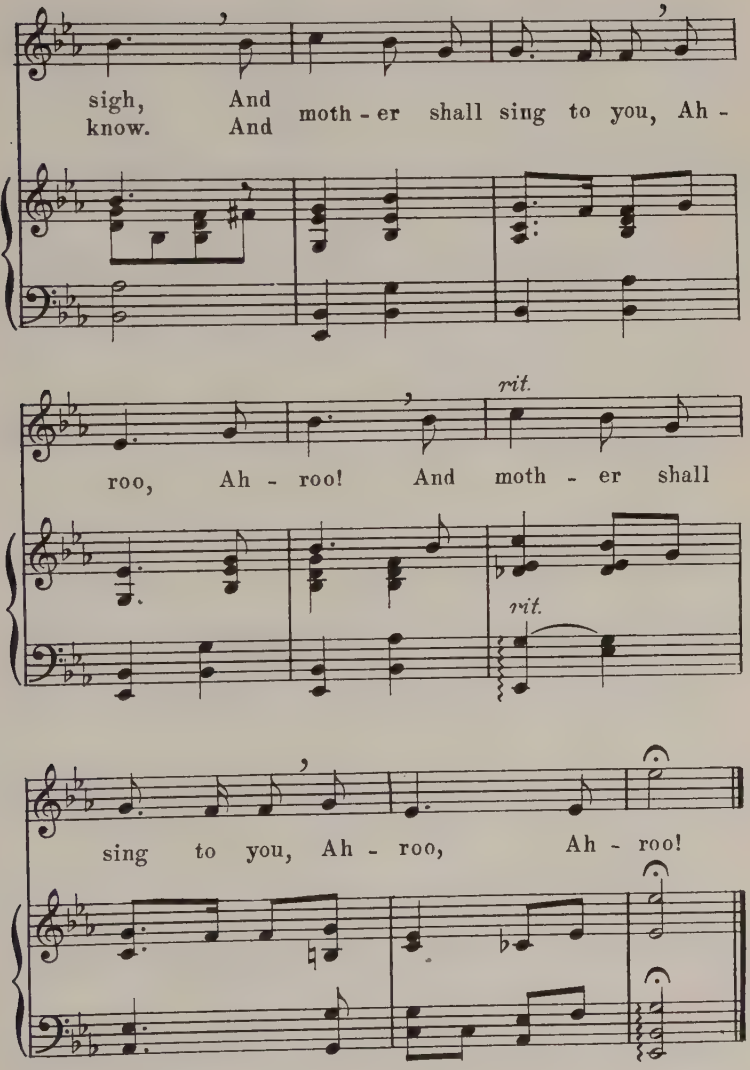
Algerian Lullaby *(Continued)*

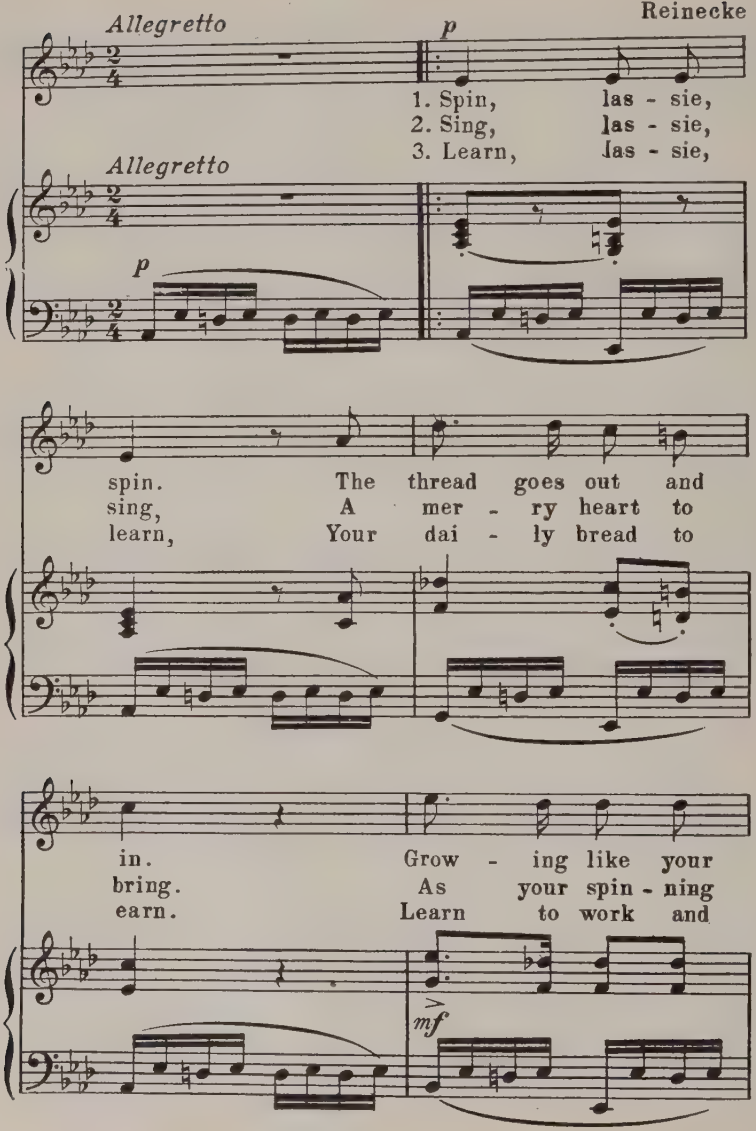


Algerian Lullaby *(Continued)*

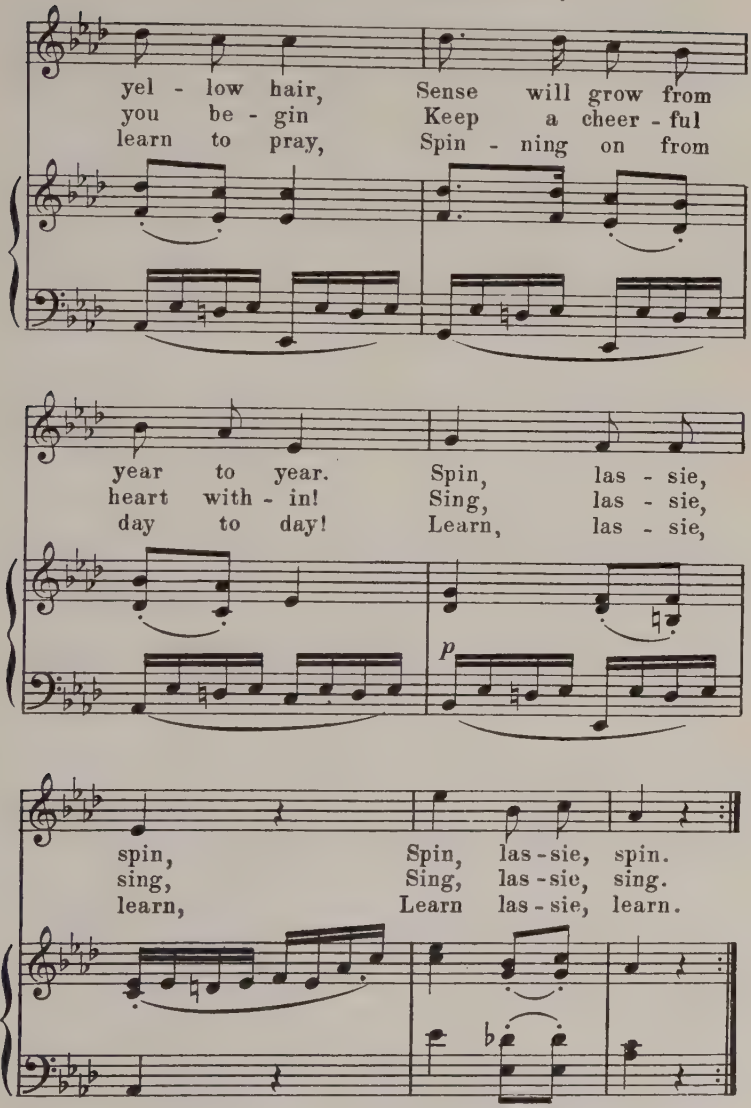


Spinning Song

Reinecke

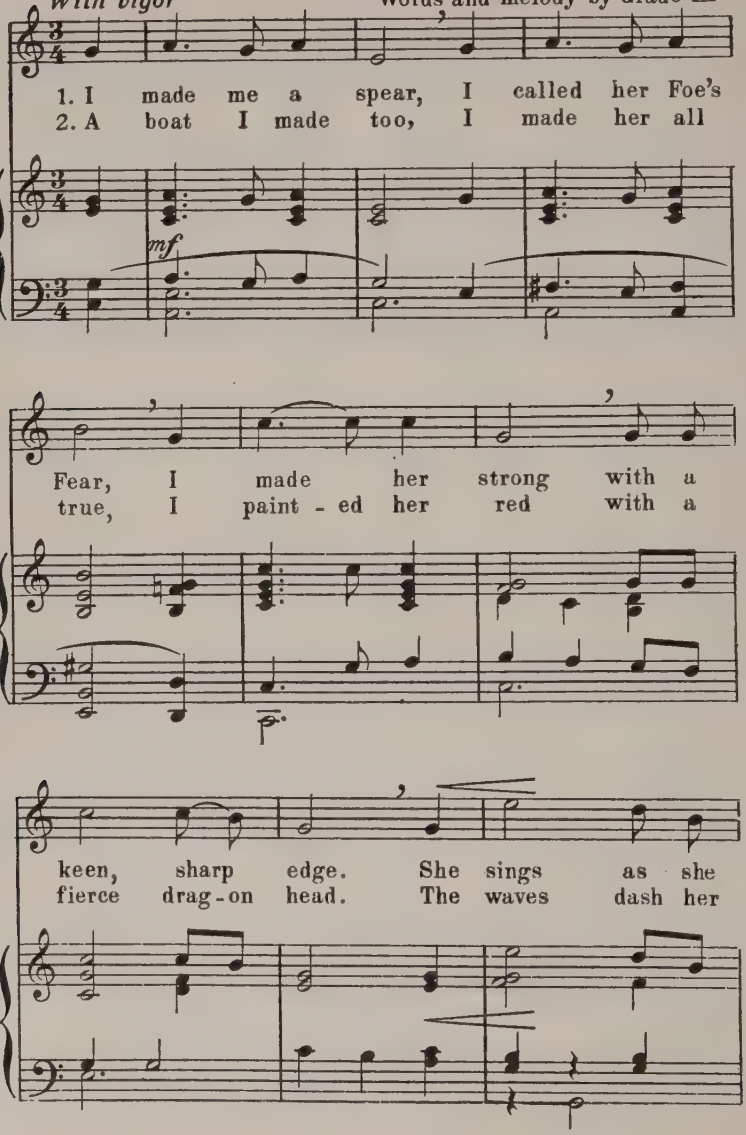


Spinning Song *(Continued)*

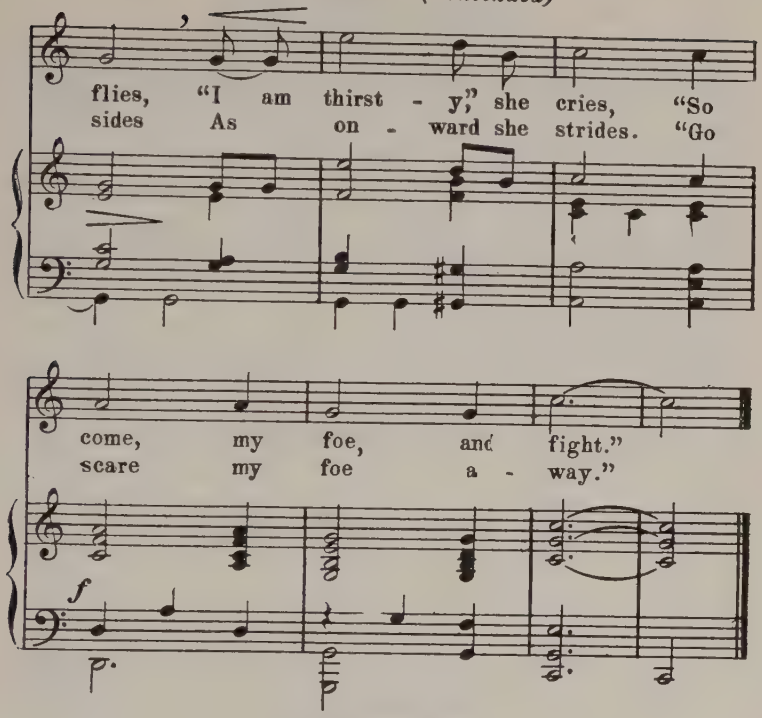


Foe's Fear

With vigor Words and melody by Grade III [a]



Foe's Fear *(Continued)*

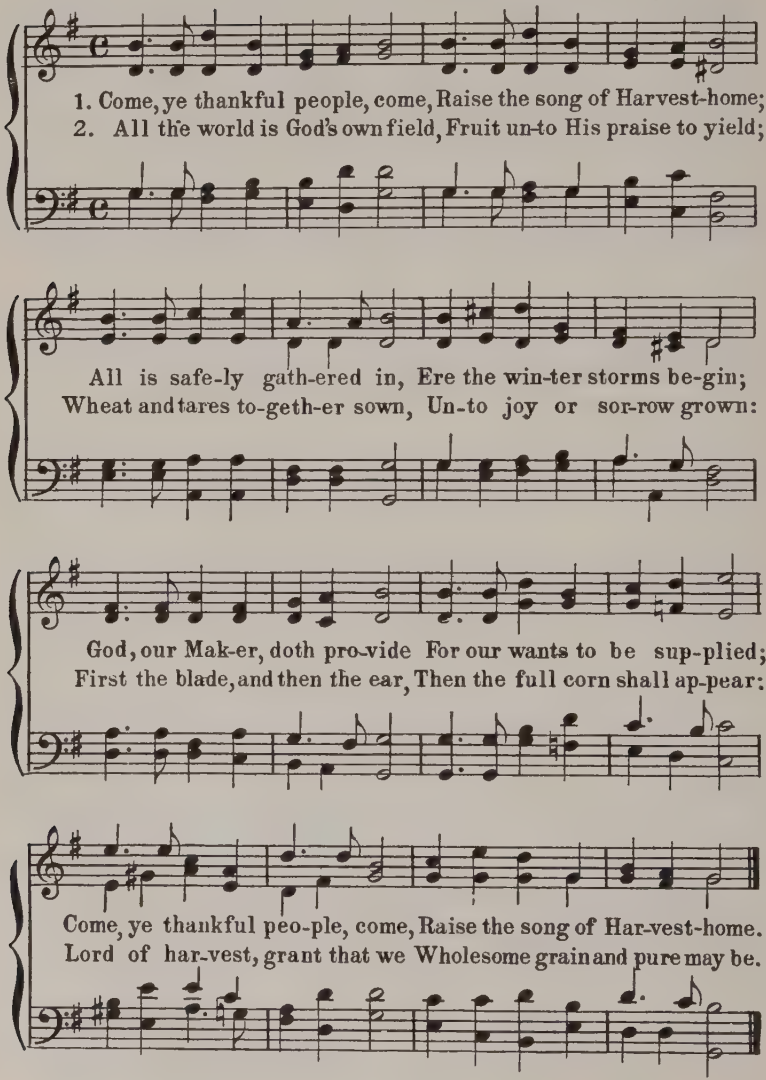


THANKSGIVING

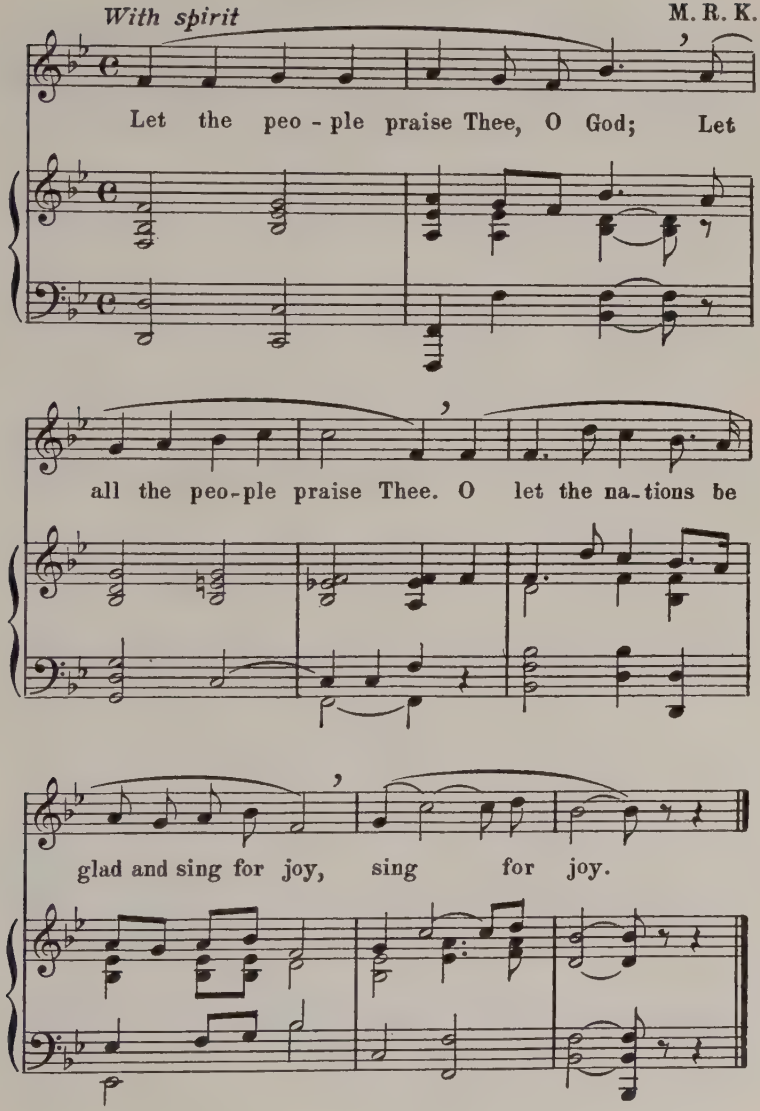
A Thanksgiving program in the primary assembly has proved itself worthy of yearly repetition. The thought of joyful giving is brought out with beautiful expression. Fruit has been contributed by the children, destined for a well known need, and is used to give a sense of actual service in the formality of the program. As many children as can be accommodated on the assembly stage are chosen to form a singing procession, each child dressed in a colored smock and carrying a bowl or basket of fruit. They march through the audience, two by two, in quiet rhythm while the three grades join them in singing the "Thanksgiving Hymn," which appears on the following page. They deposit their fruit decoratively, and standing, sing "Song Text" (see p. 295).

Thanksgiving Hymn

Dean Alford — Sir George Elvey



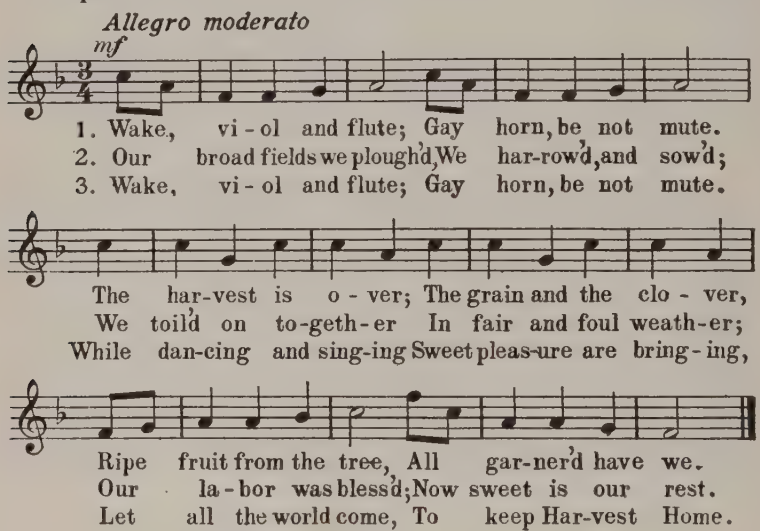
Song Text


With spirit
M. R. K.
Let the peo - ple praise Thee, O God; Let
all the peo-ple praise Thee. O let the na-tions be
glad and sing for joy, sing for joy.

After the President's proclamation has been read by one of the older boys, the three grades join in singing "O'er Our Fields" (see p. 238). An address of literary value based on Thanksgiving and adapted to the interest of all the children follows. The program closes with a fine song whose melody is especially adapted to the needs of the retarded children.

Harvest Home

G. Jaspersen E. Richter

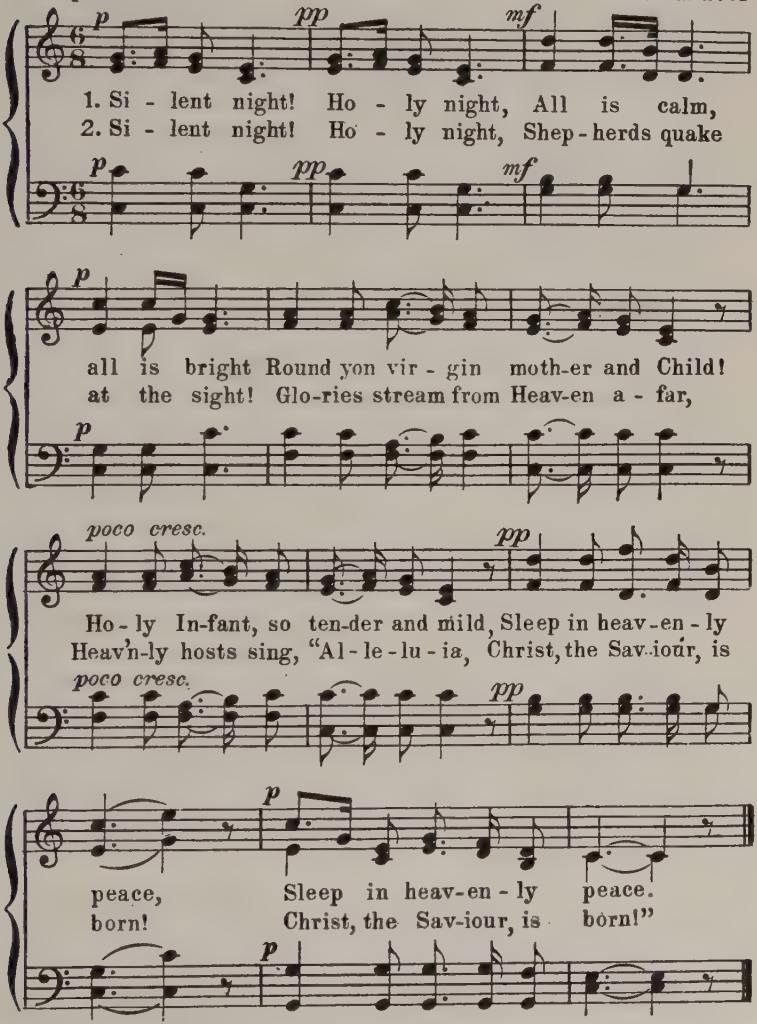


CHRISTMAS

It is good for American children to taste the joys of tradition, and at Christmastide, with our wealth of traditional material, it is possible to build a program which bears repetition year after year. Christmas customs in foreign countries make an instructive and interesting program, illustrated by a scene and folk song from Scandinavia with St. Nicholas, from Germany with Knecht Ruprecht, from France with the lovely Breton custom of blessing the wheat, from Russia with Baboushka, and on through the countries wherever Christmas is celebrated. But perhaps the most satisfying of all for

Silent Night! Holy Night!

Joseph Mohr*) 1818 Franz Gruber



*) Vicar of Oberndorf. Franz Gruber was organist in the same village.

establishing a tradition is the old English Christmas with its ancient dances and carols. One program arranged with this material lends itself to elaboration or simplicity according to the demand of the school and the furnishing of the costume chest. The music is informally provided by the audience who sing with the children on the stage, to the accompaniment of a piano. It will be found that the first and second grades if left in freedom will join in all the songs, learning an amazing number of verses without apparent effort. There are obvious advantages in allowing the earlier grades to share in the celebration of Christmas.

The stage is darkened and a group of people on their way to church enter carrying lanterns and singing "Silent Night" (see p. 297).

They pass out and an old servant enters and lights the stage brilliantly. In troop a group of sixteen young girls carrying evergreens which they hang upon the wall and then form themselves to dance a country dance to the music of "Deck the Halls." In the dances used in these programs it is not necessary to teach formal steps. The children may make their spontaneous interpretations of the rhythm.

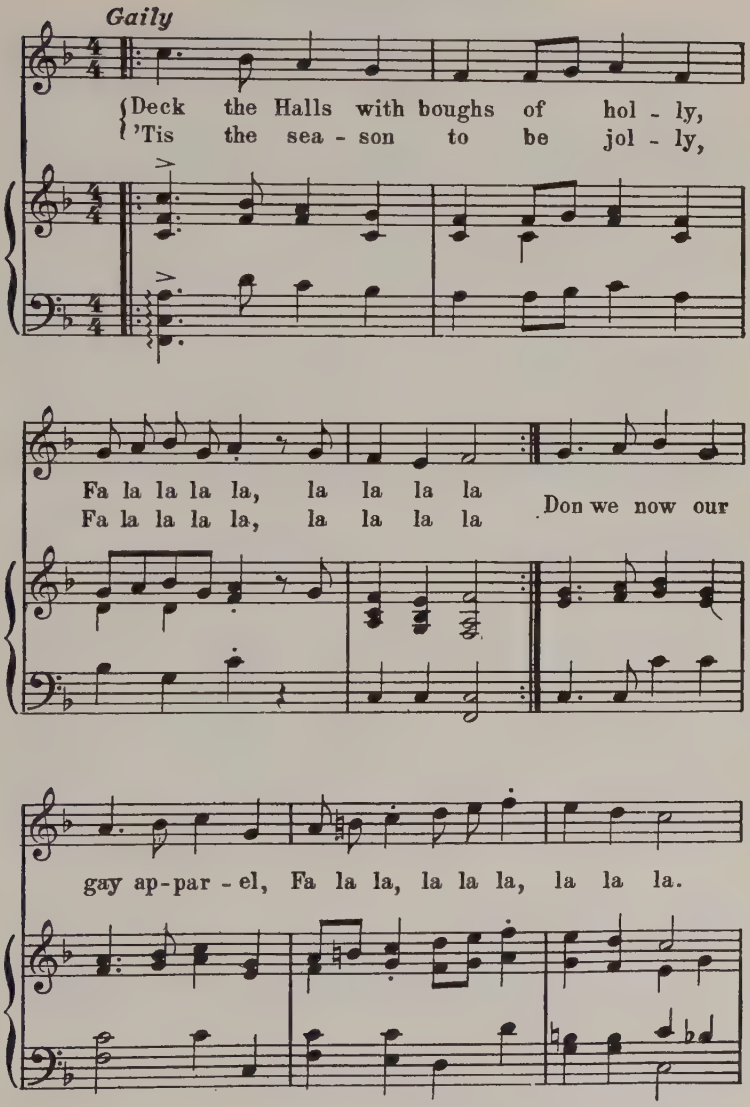
Their dance is followed by the entrance of a group of the smaller children, each with a shoe in his hand, singing "Here We Come a-Wassailing" (see p. 240). Their song is followed by the "Shoe Dance" in which the soles of the shoes they carry provide lively accents (see p. 301).

A group of eight larger boys dressed in hunter's green now pull the yule log into the center of the stage with ropes. On the yule log a little boy, also in green, is perched. Reinforced by the full chorus they sing vigorously "The Yule Log Carol" (see p. 302).

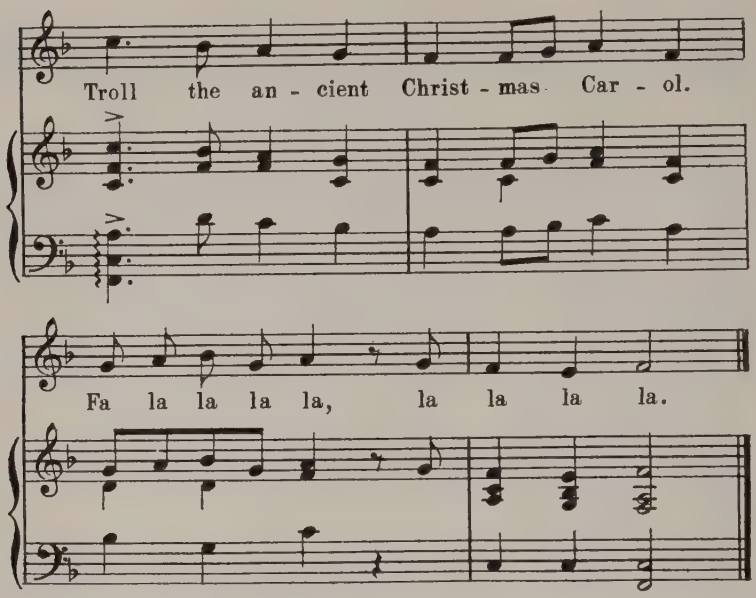
They leave the log in the center and sixteen little girls fluttering streamers of red and yellow tarlatan run in to skip across the log in the "Fire Dance" (see p. 304).

This is followed by eight small boys dressed in gray brownie suits, who impersonate ashes and do a grotesque dance, squatting and head-wagging around the log before

Deck the Halls



Deck the Halls *(Continued)*



they draw it off (see "Dance of the Ashes," p. 305).

The stage is now lined with the children whose gay-colored clothes make a bright picture under the evergreen boughs. All come forward and the audience, rising, sings "God Rest You Merry, Gentlemen" (see p. 306). The first grade joins in the refrain, "O tidings of comfort and joy."

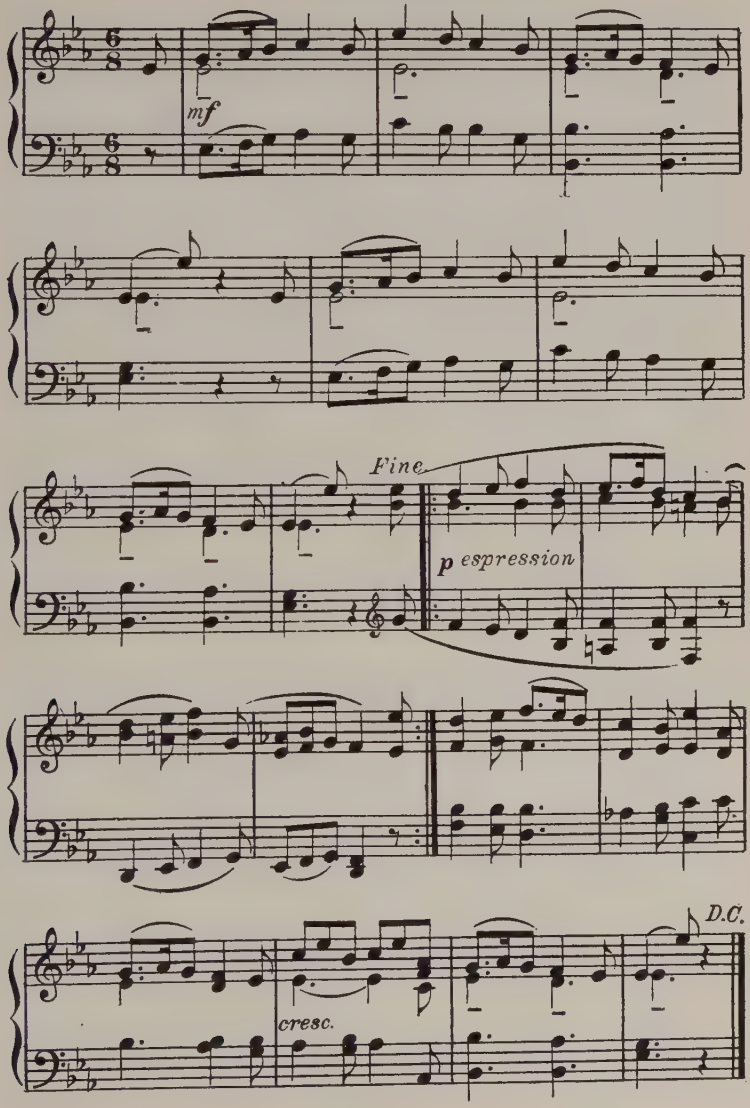
ST. VALENTINE'S DAY

The assembly in which representatives from the various classrooms give their original suggestions for making favors for the Valentine party is full of color. Dainty samples of devices in tissue paper, pink roses, and red hearts are shown and directions for making are given. Two little Valentine songs find their place on the program.

"A Valentine," page 223.

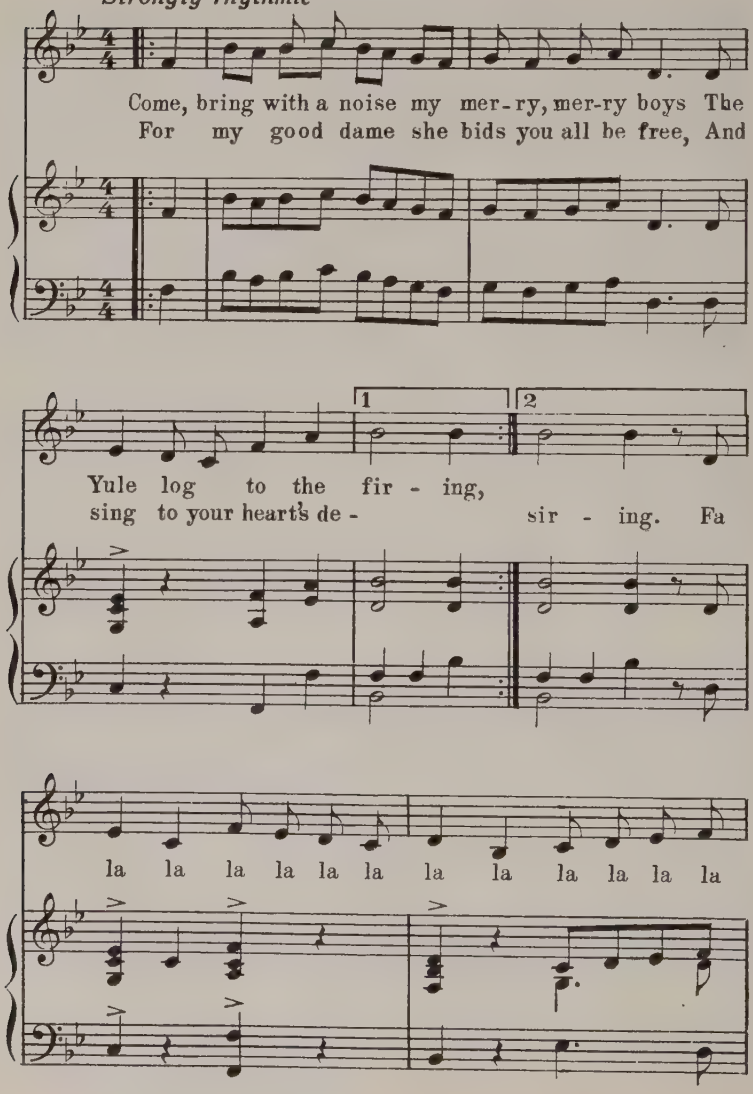
"My Valentine," page 199.

Shoe Dance

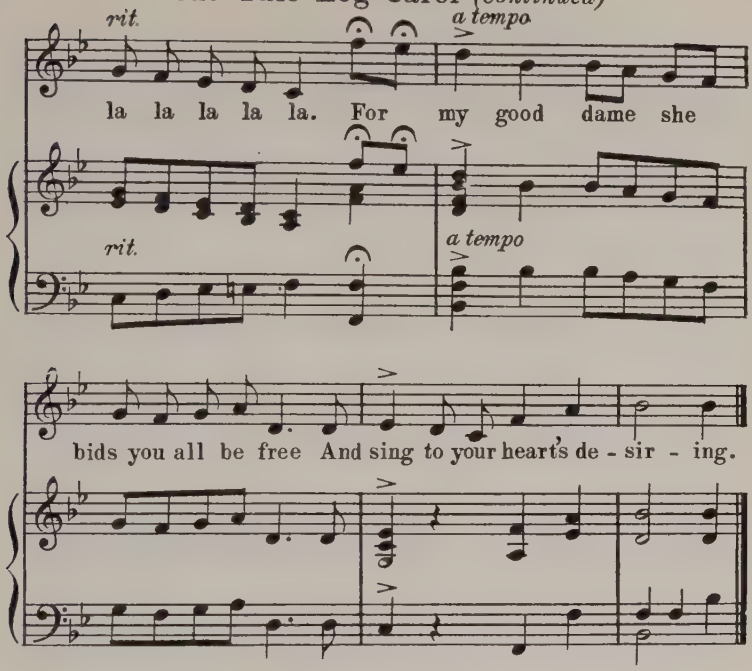


The Yule Log Carol

Strongly rhythmic



The Yule Log Carol *(Continued)*

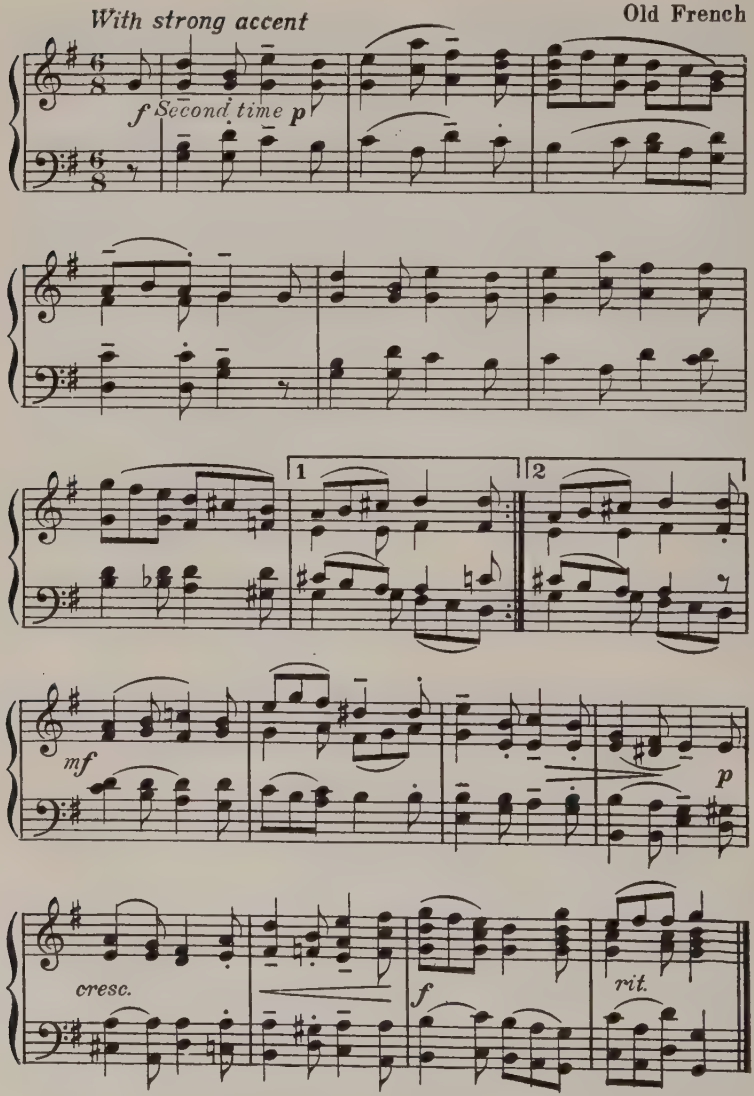


With the last year's brand light the new fire, and
For good success in its spending
On your psalt'ries play that sweet luck may
Come while the log's at-eending.
Fa la la la la la la la la la la la la
La la la la la
On your psalt'ries play that sweet luck may
Come while the log's at-eending.

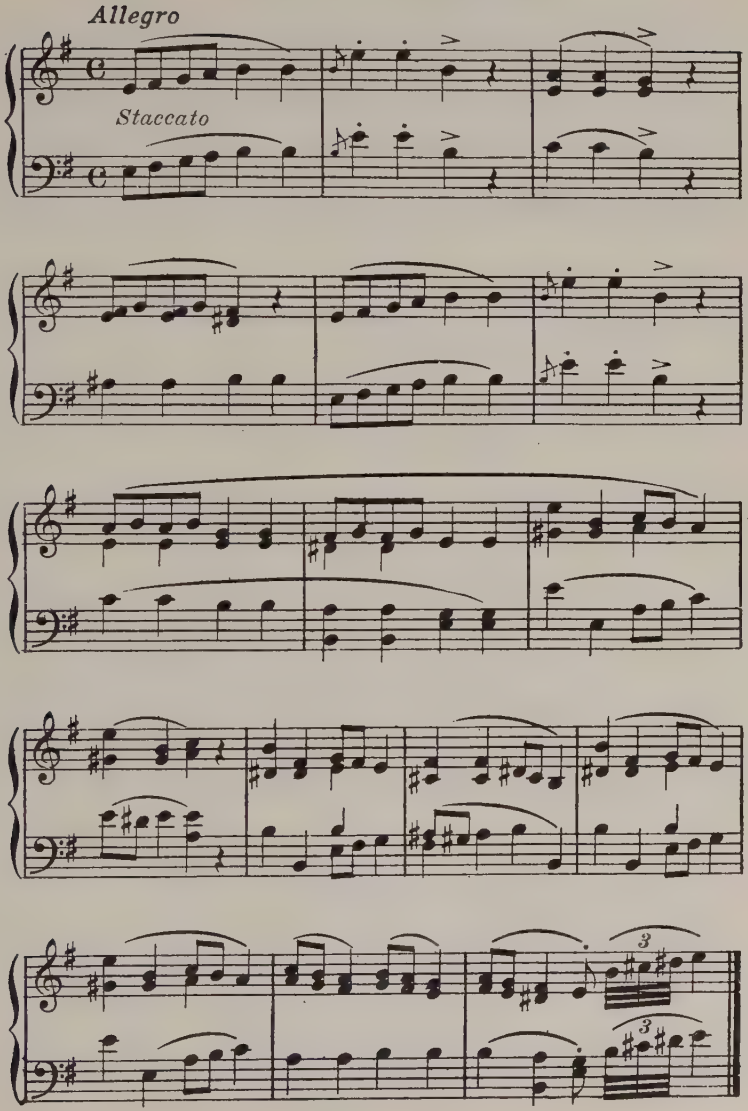
A PATRIOTIC PROGRAM

In the primary grades the patriotic program for February concerns itself with anecdotes linked with the great men whose birthdays we celebrate. All that deals with war is

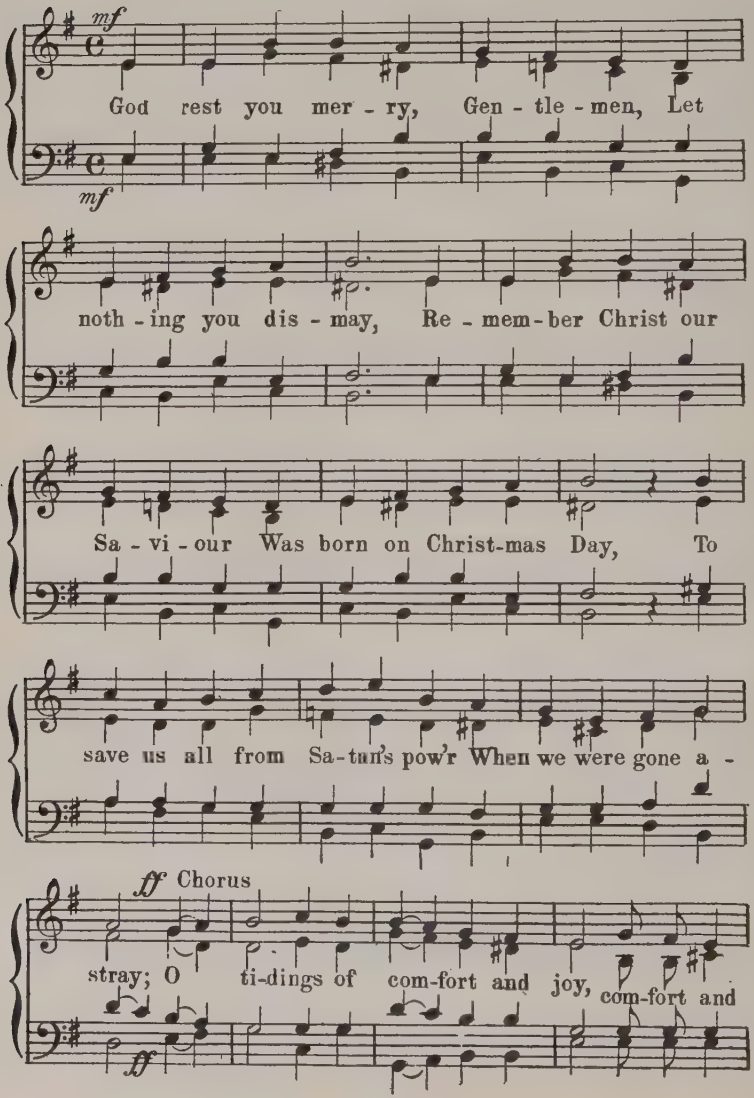
Fire Dance


With strong accent
Old French
f
Second time p
1
2
mf
p
cresc.
f
rit.

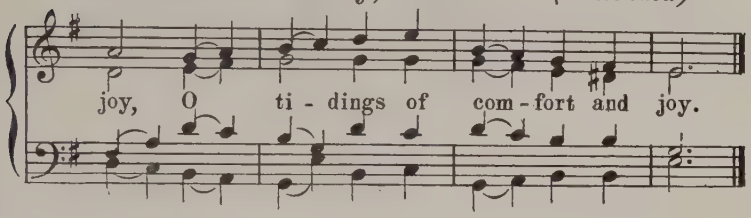
Dance of the Ashes



God Rest You Merry, Gentlemen



God Rest You Merry, Gentlemen *(Continued)*



2. From God our Heavenly Father,
A blessed Angel came;
And unto certain Shepherds
Brought tidings of the same:
How that in Bethlehem was born
The Son of God by Name.
O tidings, &c.

3. The shepherds at those tidings
Rejoiced much in mind,
And left their flocks a-feeding,
In tempest, storm and wind:
And went to Bethlehem straightway,
The Son of God to find.
O tidings, &c.

4. Now to the Lord sing praises,
All you within this place,
And with true love and brotherhood,
Each other now embrace;
This holy tide of Christmas,
All other doth deface.
O tidings, &c.

omitted. "Our Flag" (p. 205) is a rousing opening number. The third grade contributes "America the Beautiful" with its glorious prophecies of cities "undimmed by human tears." The program closes with "Glory, Glory, Hallelujah" from "The Battle Hymn of the Republic" (p. 248).

SPRING

Early spring is a time of joy for children, and poems and songs provide a natural channel of expression for their mood. Literary gems suited to the comprehension of the primary grades are not difficult to find. The correlating songs are:

(March) "Pussy Willow," page 249.
(April) "April Rain," page 224.
(May) "Violets," page 226.
(June) "Lightly Ringing," page 211.

BIRDS

The study of birds provides fine material for an assembly program. Even in our cities the parks furnish opportunities for acquaintance with certain birds and their habits, and where it is possible to gain first-hand information the program is alive with interest. It is sometimes feasible to continue the topic over several assemblies, especially where directed observation is being carried on. Typical songs to lend added charm to the program are:

"Bob White," page 192.
"Cheer Up," page 193.
"Whippoorwill," page 195.
"Bluebird," page 252.
"The Birds Have Come," page 253.
"The Bird Soaring," page 260.
"Robin, Robin," page 277.

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PRIMARY ARITHMETIC

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PRIMARY ARITHMETIC

CHAPTER ONE

THE PROBLEM OF TEACHING PRIMARY ARITHMETIC

THIS is a question to you, the teacher: Why do you teach arithmetic? It is a simple question, but upon your answer depends to a large extent your success. None of the long list of principles of education, none of the obscurities of psychologists, none of the little discourses on methods will help you unless you have in mind a worthy answer to this question.

It is not a worthy answer to say that you teach it because you are paid for it; that is like being paid to be a friend, to be honest, or to be kind to those in trouble. It is not a worthy answer to say that you teach it because the school compels you to do it; that is like saying that all teaching is merely a life of drudgery instead of a privilege. It is not a worthy answer to say that you teach it as a part of the scheme of keeping pupils busy; that is like saying that digging ditches would be a good subject in the curriculum.

Do you teach it for mental discipline? What does that mean? That it makes boys and girls better able to study geography or reading or general science? Do you teach it because everyone uses it? Did you ever have to perform such a division as $23\frac{7}{8} \div 8\frac{4}{7}$, did you ever know of anyone

else doing so, or can you imagine any need for it?

Whatever may be your answers, is it not a fact that we reach a goal much better if we know what that goal is?

Objectives. It would probably be a rather simple matter to make a list of several hundred objectives in the teaching of primary arithmetic, and there would be some value in the attempt. But after all the great thing to keep in mind is not brought out any more clearly by this investigation; on the contrary, it is hidden, like an oak in a group of soft willows. Neglecting for the time all the objectives of minor importance, the great purpose of teaching arithmetic in the first six years is to give to our pupils the power to compute accurately. The extent of this computation is determined by the needs of the great mass of fairly well-educated citizens. In these two sentences the important ideas may be summarized by the words "compute," "accurately," "needs of most people."

In the primary grades we pay little attention to business customs, to the use of difficult terms, to unusual computations needed only in technical trades, to memorized explanations, or to operations with long numbers. What we seek is the fixing of habits which shall lead the children to *compute, accurately, as needed by most people.*

The questions of reasoning ability, clearness of expression, speed and alertness, and the neatness of written work all have their places, but the great thing in primary arithmetic is to compute, to do this accurately, and to limit the work so far as possible to the needs of people in general. This limitation of arithmetic to social needs we shall consider in the discussions which begin in Chapter II.

THE SPIRIT OF THE TEACHER

After deciding upon the chief purpose of primary arithmetic, and establishing an objective that stands out clearly, unobscured by a mass of minor features, another question arises. This question is a very simple one—With what spirit do you teach?

Perhaps the greatest change in education during the past quarter of a century is to be found in the answer to this question. At one time the spirit of teaching was that of a taskmaster, one who punished with the rod; later it was that of a taskmaster who punished with the spoken word—scolding, blaming, and seeking to humiliate by sarcasm. With the twentieth century, however, there came to be more fully recognized a principle advanced by various thinkers of earlier days—that of children's rights and privileges. With this there came as a natural corollary the recognition of individual differences in children—that one was born particularly gifted in art, another in science, another in languages, and another in powers of computation.

Of late, therefore, the belief has become general that a pupil in school should feel that he is living his own life naturally, with a minimum of restraint and without tasks that are unduly irksome; that he should find his way through arithmetic largely by his own spirit of curiosity; and that he should be directed in arithmetic as he would be directed in any other game—not driven, scarcely even led, but proceeding with the feeling that he is being accompanied by you, and that he is doing his share in finding the way. Some minds will find the way much more fully than others, but the spirit of the modern teaching of arithmetic, as of other subjects, is to give every boy and girl a fair chance.[1]

How This Spirit Affects Primary Arithmetic. The effect of this new spirit on the teaching of primary arithmetic has been marked. We no longer find in our better schools the hopeless drudgery of the early days, nor do we find the attempt to make arithmetic wizards of all of the children. The questions of what to teach, how to obtain the skill we seek, and with what spirit to teach are today the outstanding ones.

[1] The author has, as in this paragraph, made free use of his various manuals for teachers, works on teaching, and textbooks, especially in the Wentworth-Smith Series. In particular he has made numerous extracts from the *Teachers' Manual* to the Smith-Burdge arithmetics, by permission of the publishers, Ginn and Company.

Both the psychologist, who has helped much in this development of the new spirit of teaching, and the experienced teacher, who has helped more, have proved that we cannot obtain skill without drill. We must, however, guard against too much drill; that is, drill upon unnecessary types of computations, such as is often given to the neglect of much-needed drill upon the number combinations used in everyday life. It is not difficult to train pupils to add two columns of figures at a time, to multiply by cross multiplication, to distinguish between seven and eight circles at a glance, or to display various other forms of arithmetic ability analogous to the acrobatic feats sometimes seen in a gymnasium. Such activities have some value as games, and they attract the attention of casual visitors to a school, but in recent years teachers generally have come to realize that the value of such work to the pupil is doubtful in the extreme. The elementary schools do not exist to train "lightning calculators," but to train all-around efficient citizens.

Thus it happens that the spirit of teaching arithmetic today is a compromise between the practical without theory and the theoretical without practice. To keep this balance true is the mission of the modern teacher.

What Makes You a Good Teacher? Assuming that you, the reader, are an inspiring and successful teacher, what characteristics make you such? Can they be described in such a way as to help others to become what you are?

Of course it is as impossible to describe all the characteristics of a good teacher as it is to describe those of a good friend. Just as equally good friends have radical differences, or equally eminent painters have radically different styles of work, so equally good teachers have their different individualities which determine their methods of conducting a class or of teaching the details of a subject.

There are, however, certain points of great similarity among one's friends; for example, loyalty—that attribute which leads us to depend upon a friend and to place confidence in his word. Similarly, there are points of similarity

among teachers and their methods of teaching, and in considering certain problems of teaching arithmetic, there are certain questions which it is profitable to ask about the qualifications and methods of the good teacher.

Have You the Imagination? For example, have you or can you easily acquire the habit of imagining yourself in the pupil's place, of seeing his difficulties, and of realizing how dull he is apt to find certain kinds of instruction? Can you imagine what you as a pupil would have liked the teacher to do to make the work more real, more interesting, and more easily understood? Do you try to imagine whether or not, at the pupil's age, you would have wished your teacher to create more pleasure in the work, or whether you would have liked to go a little slower or perhaps a little faster? Have you the power to recognize and to make allowances for "individual differences" among pupils?

Some pupils are naturally more rapid than others; some are more inclined to accuracy, and some have an unusual liking for arithmetic, while others do not. Fortunate is the teacher who can easily recognize these differences in her pupils and who understands that success depends largely upon her imagination and sympathetic help. If she has these powers, she is quite certain to be a good teacher or to become one because they include to a large degree all the other characteristics which such a teacher possesses.

The Modern Spirit in Presenting the New. Do you, the teacher, carry this new spirit into your presentation of new things to your pupils? Have you acquired the habit of planning lessons according to a definite system so that you may be assured of the interest of the class? Do you take naturally the preparatory step of referring to something already well known which leads to new work? Do you lead the pupils to find the way for themselves by telling them only what is necessary to keep the work moving with the proper spirit? Do you vitalize the new work by relating it to interesting things that are already known, and by showing the uses that can be made of it? If you who teach arith-

metic recognize the well-known principle that there is great value in tying up, relating, or connecting what is being taught with that which is already known and interesting to pupils, and are skilled in applying it in your work, you have the genius of a real teacher. If you simply assign two pages from the textbook and "hear" a recitation upon them, the work will be uninteresting and the achievements of the class will be disappointing.

Establishing Bonds with Daily Life. Fortunate is the class that has a teacher who has developed the habit of using illustrations from the pupils' experience outside the school, so that they will realize how closely arithmetic is related to the ordinary affairs of life. Such a teacher is almost certain to be an inspiring one, and such a class will delight in using numbers with a spirit that was rarely known a generation ago. There are many points of contact of numbers with the lives of children, such as playing and scoring games, playing store, planning a party, going to the postoffice, telling time, earning money, making change, sewing, making weight charts, and making simple purchases. Of these, of course, the most valuable ones in Grades I and II are the games, easy measures, counting objects, and very simple purchases, all of which are discussed in the chapters that follow.

CHAPTER TWO

GENERAL SUGGESTIONS FOR THE CLASSROOM

A GENERATION ago the work in the so-called "methods of teaching" was, as given in most of our schools of education, about as lifeless as arithmetic, geography, reading, and general science, as these were then taught. The fact is that any dogmatic method of doing anything is an evidence of the lack of originality on the part of one who uses it. There are certain general suggestions that may help a teacher, and certain principles that have proved their worth. However, that there are "five formal steps" in presenting every lesson is an interesting suggestion but not a very helpful proposition.

Without laying down any fixed rules, we may say that a good lesson is characterized by having an evident purpose in view; by relating the work to children's needs and interests; by enthusiasm on the part of the teacher which induces a corresponding interest on the part of the class; by alertness, quickness, and ambition to succeed on the part of both pupils and teacher; and by an absence of mere drudgery. It is proposed in this chapter to set forth a few further suggestions, not as methods to be followed blindly, but as simple facts of educational experience which may be helpful to teachers of arithmetic in the primary grades and, indeed, throughout the entire work of the elementary school.

CONCRETE ILLUSTRATIONS AND ABSTRACT DRILL

THE CONCRETE ILLUSTRATION. Particularly in Grades I and II, but also to a considerable extent in Grades III and IV, the concrete illustration in the form of familiar objects plays an important part in the study of elementary number. Since the child is in the motor stage of development, the

teacher should constantly remember that the beginner can measure only something that he can touch, that he can count only what he can see, and that he has great difficulty in grasping the idea of adding the abstract numbers, 2 and 3. That is why in the introductory work so much use must be made of objects. For example, the child can see that two blocks and three blocks are five blocks more readily than he can understand the more difficult concepts $2+3=5$. As the pupil advances, the latter form begins to mean more, until in Grade III he should have but little trouble with the abstract statement.

While the use of objects is not so necessary in Grades III and IV, even there the work with fractions should be introduced by dividing objects and groups. For example, the idea of a fraction can only be made concrete and real by using pictures of objects and preferably by using the objects themselves, selecting only those with which children are familiar. In this way the pupils come to see the need for learning more about fractions.

In counting it is always better to use a variety of objects (blocks, 1-inch lines, sticks, books, marbles, and so on) than to confine the illustrations to one type of objects, like cubes.

Allotment of Time to Abstract Drill. The question arises throughout the primary grades as to the relative amount of time to be assigned to abstract drill and the amount to applied problems. It is possible to answer the question only in a somewhat general way. The differences of classes, of individuals, of grades, and even of teachers contribute to rendering a precise ratio of time allotment a difficult one. In general, however, the following plan has been found effective:

In Grade I nearly all of the work is oral and objective. It is manifestly undesirable to pay much attention to abstract work.

In Grade II more abstract drill is given; for example, about half of the time is usually given to abstract number work and the rest to simple applied problems. In general,

the problems suited to this grade should be given as oral rather than as written work. Problems in Grades I and II should involve only one operation; that is, each should be a "one-step problem."

In Grade III the applied problems should receive less time, since this grade is the period of learning the various tables, which necessitates much drill upon abstract numbers. Speaking generally, about one-third of the time (not one-third of the number of pages, since the abstract drill work can be covered more rapidly) may be given to applied problems and the rest to the abstract work. In this grade written work begins to demand considerably more attention than in Grades I and II.

This last division of time may continue until Grade V is reached, when the applied problems again begin to demand a larger proportion of the allotment, while in Grades VII and VIII, since the operations have been fully mastered, the applied problem will take nearly all the time except such as is assigned to review drills.

Sure Progress Preferred to Rapidity. Whether the work is in the form of abstract drill or of concrete problems, the important question is whether the pupil is making sure progress. It is not necessary that it should be rapid; indeed, it is often much better that it be slow; the expression, "Slow but sure," has great significance in primary arithmetic as, indeed, in all other work.

In learning the number combinations, for example, the process is necessarily slow because the pupil must be sure of the results. The familiar and easy combinations are introduced first so that the pupil may feel that he is progressing. It is the same way with all the operations. Not all textbooks recognize sufficiently this law of the human mind —that it is necessary to proceed by simple, carefully measured steps which progress upward.

This principle of careful development, however, applies to every operation—there must be a slow but sure progress, suited always to the pupil's pace.

CONSIDERING THE CHILD'S INTERESTS

Establishing Motives. When "motivation" was one of the prevailing fashions in education, it was exploited to such an extent that number work seemed for a time to be concerned more with motivation than with the attaining of facility in computation. Nevertheless, there was, as in most cases of this kind, an element of truth that should be considered. In relating the number work to that which is already in the mind and to the everyday interests of children, the teacher should at the same time establish, in connection with each new topic, some worth-while motive for beginning its study. It should never be forgotten though that, since "motivation" in its best sense is simply showing pupils interesting reasons for taking up new topics, it is only a means toward—not the end of—good teaching. When motivation is unduly stressed there is always the danger of insufficient drill on the arithmetic computations involved.

It has always been apparent, however, that a child learns more easily something in which he is interested or for which he sees the need. Many a boy has mastered percentage without difficulty when he needed it for finding the standing of his favorite baseball team in the league.

Experiments have emphasized the importance of this factor in the learning process. It is for this reason that our best arithmetic textbooks always attempt to show the need for every new operation before it is presented. It is not necessary to talk in terms of "motivation," or to go to the extreme, as is far too frequently done, of so stressing this one feature that the pupil acquires no real ability in computing. What is vitally necessary is that the pupil should clearly see that what he is about to learn is going to be of value to him personally.

The need for learning may be established in many different ways. The attention given to this feature in modern teaching is apparent in the number games and the simple number-story problems to precede calculation in Grade I; in problems

on children's purchases to precede a systematic study of coins; in the approach to the fundamental operations by applications of especial interest to children; and so on for each new topic.

CHILDREN'S DIFFICULTIES WITH LANGUAGE

The advantage of introducing a new topic by an appeal to the child's interests and needs is apparent. It is also obvious that such an appeal must be presented in language suitable to the child's immature understanding. With this end in view various word lists have been compiled as a result of scientific investigations, and a suitable vocabulary for each grade has been prepared. A few of our better class of textbooks wisely make use of such lists.

In regard to the technical terms inherited from the earlier and more formal teaching of arithmetic, the excuse is often made that every science or occupation requires its own vocabulary, but the world in general—and particularly the business world—pays scant attention to such a plan. The teacher feels, perhaps, that the world would do better to adopt the precise terms of arithmetic, but the world has no such intention. The pupil, therefore, has to unlearn much that he is taught in school. For example, the pupil is taught to call the result of a subtraction the "difference," but the world uses the term "rest" or "balance," as when a business man says, "What will be my *balance* after paying these bills?" or, "I will pay so much now, and the *rest* later." In many texts the pupil is required to learn and to use the terms "minuend" and "subtrahend," which are rarely heard outside the school. While there is some present need to be able to distinguish among "sum," "difference," "product," and "quotient" the pupil and the teacher should realize that the world finds no difficulty in using the one term, "result," for all such operations.

The customs of the schools are difficult to change, so strong are tradition and habit, but the change is being made

slowly, and modern textbooks comply with it insofar as it is possible. There are many terms, however, that pupils must know how to use correctly. The term "multiplicand" can easily and profitably be replaced by "the number multiplied"; but such an easy substitution does not exist when, for example, we speak of the common denominator of two fractions. In the early work, however, it is as well to speak of fractions as having the same name instead of as having a common denominator. Happily the day of long lists of formal definitions has passed, and in its stead has come the recognition of the fact that it is sufficient if the pupil knows the general meaning of common terms and is able to use them correctly.

When the pupil comes to problem-solving, the difficulties of language become especially evident. A considerable part of the trouble arises from the fact that the child cannot understand the adult phraseology of a textbook that, in many cases, was not prepared with a view to the pupil's vocabulary. This can be overcome to a large extent by having the problems read in class, discussed as to methods of solution, and then assigned for seat work.

These difficulties as they affect the particular topics of the primary grades are discussed in the following chapters.

THE MISTAKE OF DEMANDING LOGICAL REASONS

While this topic does not relate to the early work in the primary grades, it has an important bearing upon that of Grades IV–VIII. Only a comparatively short time ago it was customary in schools to require the child to give the reason for every step in an operation. This system had the disadvantage of centering the attention on the processes instead of on the automatic performance of the operation as a whole. Moreover, it usually defeated its ends because the reasons, instead of resulting from the pupil's own analysis, were usually memorized from the textbook.

The present-day teaching of arithmetic, in which each

operation is discussed in a simple and natural way when the need for it arises, is much more sensible. In this procedure after the pupil sees with sufficient clearness the reason for each step as he proceeds, the aim is to make the process mechanical as soon as possible. If we all had to stop and think of the reason for each step of a multiplication that we have to make, we would soon have to give up our other work. In most of the child's acts in life—walking, writing, dressing, playing, and so on—his motions are largely matters of habit, and the same should be true of his computing.

The final purpose in all habit-formation is to secure automatic reaction so that maximum speed and a high degree of accuracy are attained. What is done from force of habit is done more quickly and with less chance of error than that which is done through conscious direction. Since the first four years of the pupil's study of numbers constitute a period of habit-formation, every advantage should be taken of this fact to establish in the beginning proper habits of computation that will remain throughout life.

GENERAL STEPS IN TEACHING OPERATIONS

In the teaching of counting and all the other fundamental number facts and processes there are three distinct phases of the work that must each receive proper attention. These phases are (1) the presentation of the fact, (2) the drill to give automatic control, and (3) the use of the number fact in simple everyday applications.

The pupil should not be taught to accept a number fact simply because it is presented to him, but he should actually work it out, apply it, and drill upon it until the knowledge of the fact is his own by right of exploration and use. A concrete presentation or development enables the pupil to see the meaning of a fact, and thus he will know better how and when to use it. No development, however, is sufficient to show clearly the full meaning and use of the fact, and this must be brought out more completely through the applica-

tion of the fact to some problem within the child's range of interest.

The importance of the right type of drill cannot be overestimated, for it is mainly through drill that the pupil gets his automatic control of number facts. On the other hand, mere drill without proper attention to the other two phases of number teaching, the presentation and application, is practically useless. The drill phase requires the greater length of time, because much drill is necessary to gain the desired control of such a fact as $4+7=11$. In this connection number games and rhymes are often valuable in the primary grades, not for any special drill value that they contain, but for the added joy and interest that they give to the pupil's number work.

The knowledge of number facts is of no value unless the pupil gets the habit of using them. One of the chief aims of the teacher should be to develop in the pupil the habit of applying and using numbers in all his activities and studies wherever quantitative relationships arise. The importance of the problem in the early number work is to give a clearer meaning to the fact. Proper application also leads the child to feel more and more the need of number knowledge and skill, and thus creates in him a greater interest in his work. A variety of applications of each number fact is indispensable to the acquisition of the desired skill and understanding.

Before any of the primary number facts or combinations are taught, the pupil should know the names and meanings of the figures and be able to associate the figure with the name and with objects, no figure or symbol being used until the corresponding number idea has been made clear to the pupil. The teacher should take care that in counting objects the pupils do not get the idea that the third one of a group is three, the fourth one four, and so on. They should see clearly that three means 3 ones; four means 4 ones, and so on.

Writing the Figures. It is of very great importance that the pupil in Grade I should be taught to make his numerical figures properly. For example, he should learn that 2 should

be made by one continuous line beginning at the top; that 3 should be made in the same general fashion, that 4 should be made by beginning at the upper left-hand point, the angle first being made and then being crossed by the vertical line; and that 5 should be made in two strokes, the first beginning at the top of the vertical line and ending at the lower end of the curve, and the second beginning where the first did and extending to the right. Similar care should be taken with the others, special attention being necessary in the case of 9. If a child acquires bad habits at first, he will have much difficulty in breaking them.

THE TEXTBOOK AND ITS USE

In Grades I and II there is little use made of the textbook. Such an aid is very valuable, but most of the work is necessarily oral. In Grade III, however, the textbook begins to play an indispensable part. As one who has written many such books and has all his lifetime studied the best of such works in America and abroad, it may be permitted to the writer to say a few words to teachers as to what should be expected of these important aids to teaching.

In the first place the textbook should always be the teacher's servant, not the master, and the author has the right to expect that teachers who use his book shall so regard it. On the other hand there are many ways in which the teacher may rightly expect the modern textbook to assist her. The following list suggests some of the more important characteristics of a good textbook in arithmetic and the help which it should offer the teacher.

1. The textbook intended for Grades III and IV should begin with a thorough review of the work of Grades I and II, in which grades there is generally but little formal use of

such an aid. The purpose of this review is not only to simplify the introduction to the use of a book, but also to strengthen the foundation for the new work to be undertaken.

2. The textbook in primary arithmetic should present or suggest plenty of number games to help the teacher in arousing the pupils' interest.

3. The close of each chapter should be made a kind of milestone of progress. It should be also a time for taking stock in order to make certain that the pupil can proceed safely to more advanced work. This review of the minimum essentials may be strengthened by examination material covering the leading topics already studied.

4. The work should be systematically arranged with a view to mathematical progress. This is a requisite which by a careful selection of topics can be harmonized perfectly with the idea that the work must relate to the children's needs and interests at every step. It is not at all necessary to present the topics without any scheme of mathematical progress in order so to relate them—in fact, the value of this relation is seriously impaired unless a pupil can see that he is advancing in his knowledge of arithmetic, and that every day he is overcoming some difficulty. Such is the plan upon which any book must be arranged in order to be of genuine assistance in the classroom. The way in which many of the pupils' difficulties can be overcome by attention to the method of presentation will be considered in subsequent pages.

5. The textbook must show a proper balance between the applied problems and the abstract drill work. There should be no long series of applications without drill, and no excessive amount of drill without interesting applications. While it is a good motto that "There is no skill without drill," there is no reason for taking the extreme and unscientific position that great skill requires all drill.

6. The explanations in the text book should be simple and few, especially in the primary grades. The pupil is not then ready for elaborate details, so it is better to let the mechanical

process develop naturally. As the pupil advances, the explanations should begin to assume more importance, but they should be characterized throughout by simplicity. Long, involved, difficult-looking explanations have no place in a primary textbook, or indeed in any elementary book.

7. The text should conform to the modern practice with regard to definitions. The former emphasis on memorizing formal definitions has been replaced by a general agreement that the proper use of a term is much more important than its precise definition. The necessary information about new terms should be presented in a natural, informal way. The pupils' vocabulary is thus permanently enriched by the best method of learning—by understanding and use, rather than by rote.

8. There should be a variety of applications or illustrations drawn from situations within the child's experience or interest, since these lead the pupil to feel a need for number facts and also to take more interest in the work.

9. The textbook should contain abundant means of checking the pupils' progress through drill material both with and without time limits, covering facts already learned, tests to meet special difficulties, such as troublesome combinations, and an ample supply of applied problems. There should be more problems than any one class ordinarily needs, so as to provide some change from year to year and to offer enough to meet the needs of the more ambitious pupils.

PROJECTS

Despite the attention which the "project method" has attracted, there seems to be no universally accepted definition of the term. The general purpose at first seems to have been to have the pupil engage in a real or imaginary piece of work, like furnishing a house, or cultivating a piece of land for a season, or constructing a radio set. Such projects have undoubted value if it is feasible to have the work actually done, or if the projects can be brought within the range of the

child's imaginative experience so that the situations seem real to him. To others a project means the keeping of actual accounts in housekeeping or gardening, or in building a boat, or in some activity outside the school that ordinarily involves no arithmetic not learned long before the project is assigned. From the standpoint of arithmetic, therefore, many projects are merely exercises in economics, with no special mathematical value except that of an incidental review.

There is undoubted value in arousing the interest of the pupils by the use of simple projects in which they see the need for numbers and the way in which arithmetic enters into even the simplest of activities. Such work, must, of course, be kept as simple and natural as possible in the primary grades, and is best when suggested and directed by the teacher. The following topics will lend themselves readily to development of this sort: finding the cost of a party; learning to spend money to advantage; planning a birthday party; problems of Boy Scouts; ordering a breakfast at a hotel where each item is paid for separately; making toys; keeping the milk record in a school; and finding average weights and heights. Many similar topics can be advantageously developed as simple projects, and others will occur to the teacher who is on the watch for interesting examples of this kind of work.

It is apparent from this list that a project may often be made just as real to the child's imagination as if it were actually carried out, provided that the situation described is real and within the range of the child's comprehension. Whatever the nature of the project, the value and amount of the arithmetic involved should be carefully considered in order to be sure that it is worth the expenditure of time. Extremists are apt to have their work all project and no arithmetic, or to have the computation too trivial to give the pupil any feeling that he is making intellectual progress in arithmetic itself.

On the following page is given a fair idea of a store project for Grade I.

KEEPING STORE[1]

1. *Material.* A kindergarten table to serve as a counter. Objects made by the pupils to include representations of the 1-, 5-, and 10-cent pieces; a change drawer; and objects to represent apples, pears, dolls, furniture, and dishes.

2. *Difficulties graded.* (a) Counting 1¢, 5¢, 10¢; (b) purchasing single articles, exact amounts less than 10¢; (c) purchasing two articles costing together 10¢; (d) purchasing one article costing less than 5¢ and making change for a nickel; (e) purchasing one article costing less than 10¢ and making change for a dime; (f) purchasing two articles costing less than 10¢ and making change for a dime.

3. *Method of proceeding.* (a) Arrange the articles on the counter (kindergarten table), the price being marked on each. Each child is given ten 1-cent pieces with the privilege of buying one article. One says he will buy a pear costing 2¢. He pays the storekeeper two 1-cent pieces.

(b) As a preparation for the next step review the tables already learned, the work being rearranged. For example,

$$\begin{array}{ccccccccc} 2 & 2 & 2 & 3 & 3 & 3 & 4 & 4 & 4 \\ \underline{1} & \underline{2} & \underline{3} & \underline{1} & \underline{2} & \underline{3} & \underline{1} & \underline{2} & \underline{3} \end{array}$$

and so on. Then give each child the ten 1-cent pieces as before, with the privilege of buying two articles costing together less than 10¢, paying for them with 1-cent pieces.

(c) Give each child a 5-cent piece with the privilege of buying any one article marked less than 5¢. As a preliminary step write on the board such addition combinations as the following, each pupil erasing the star and writing the correct number in its place:

$$\begin{array}{cccccccccccc} 4 & 3 & 1 & 2 & 1 & 2 & * & * & * & * & 4 & 3 \\ \underline{1} & \underline{2} & \underline{4} & \underline{3} & \underline{*} & \underline{*} & \underline{4} & \underline{3} & \underline{1} & \underline{2} & \underline{*} & \underline{*} \\ * & * & * & * & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 \end{array}$$

[1]This is adapted from the New York State *Syllabus for Elementary Schools*, with various modifications.

If the purchaser buys a chair at 3¢, the storekeeper says: "The chair costs 3 cents; 3 and 2 are 5; 2 cents change."

(d) This step is analogous to (c), but with 10¢ instead of 5¢.

(e) Give each child a 10-cent piece with the privilege of buying any two articles costing together less than 10¢. The purchaser may, for example, say "I will buy a cup costing 6 cents and a pear costing 2 cents." The storekeeper then says, "6 and 2 are 8; 8 and 2 are 10; 2 cents change."

Such methods of showing the purpose of number work are valuable. They have had various names, such as dramatized problems, real-situation problems, narrative problems, motivation problems, and the like. At present they are frequently called "projects." The general purpose being worthy, the particular name is of no moment.

It will be observed that this work introduces subtraction by the "making-change" method. The amount of subtraction is so slight, however, and is based upon addition to so great an extent that teachers will find no difficulty in presenting it in Grade I.

THE HABIT OF ACCURACY

One of the first essential habits for a pupil to acquire in arithmetic is that of accuracy. Speed is desirable, but it is not essential; accuracy, however, is imperative. An answer in computation is right or it is wrong; there is no half-way rightness. A pupil may understand only part of an applied problem and may be entitled to part credit; but in any single computation there is no such thing as 50 per cent accuracy. All this is largely a matter of practice and habit. From the first work with numbers the teacher should seek to cultivate in the pupils the habit of writing figures neatly, of computing rapidly, and of verifying all answers.

For instance, after adding a column of figures from the bottom upward (which is considered by business men the more efficient way), the result should be checked by adding the column from the top downward. In a subtraction like

$42-15=27$, the work should be checked by adding 27 to 15, and so with other operations. The importance of establishing habits of accuracy at the very outset cannot be overestimated. As soon as he comes to the simple operations in Grade II, the child should feel that no computation is finished until the work has been checked.

THE GENERAL NATURE OF THE PROBLEMS

The modern teaching of arithmetic, beginning at least as soon as the number work of Grades I and II is completed, demands that all applied problems shall truly represent the interests of children. These interests relate chiefly to games, to simple purchases, and to the measuring of objects with which the children are actually working. The subject-matter of desirable problems for the primary grades must therefore deal for the most part with these interests. At the same time, the children's natural participation in the life of the home and the community affords a fertile source of problems well within their range of comprehension, such as buying house furnishing, laying out flower beds, planning family expenditures, and so on.

The problems in the older type of arithmetic related in general to measurements which involved compound numbers that nobody ever used; to buying articles that no one in the class would ever buy; to fictitious situations intended simply to puzzle the pupil; or to business transactions with prices stated, as $\$1\frac{3}{376}$, and the like. The contrast that the modern textbook in arithmetic offers to such a list of problems is well illustrated by the variety of topics presented in the problems of the better class of arithmetics of the present day.

SUGGESTIONS AS TO MODERN DRILL WORK

Since facts once learned will be forgotten and skill once developed will be lost without constant use or repeated review drills, it is necessary that pupils have frequent reviews

of all the fundamental facts and processes previously learned. No better use can be made of five or ten minutes daily in the number-work period of the early grades than to devote that time to rapid drill upon the fundamental number facts.

A drill lesson requires as much careful planning on the part of the teacher as any other lesson. The following outline suggests the most important points to be considered.

1. The teacher must know what facts to drill upon and why. This is determined by having each pupil report on the "troublesome combinations" in addition, multiplication, and the other operations.

2. The results accomplished in any kind of drill depend largely upon the degree of interest and attention the teacher is able to obtain from the class.

3. The drill periods should be short and spirited.

4. The most difficult facts should have the most time given to them.

5. When the pupils show any lack of interest, the form of the drill should be changed.

6. Much of the drill should be done with a time limit. The purpose of timing is to insure concentration and the formation of efficient habits of work. The limit should not be set in such a way as to make the pupils hurried or nervous, nor should the drills be prolonged until the class becomes fatigued.

7. Concert work in drills is nearly valueless, for in such work only a small number, who are usually the best pupils, are really attending to the drill.

8. The desire to excel their former records should be encouraged in the pupils.

9. The class should occasionally be divided into sides or teams in order to stimulate interest and attention.

CHAPTER THREE

THE WORK OF GRADE ONE

WHEN children come to school they always, in these days, have some idea of number. This is much more evident than it was a generation or so ago. In many homes they come to know the values of small coins, to be able to count understandingly a considerable distance in the number scale, to know the meaning of a half an object, to write numbers of one or even two figures, and to perform very simple additions, such as 1 and 2, or 2 and 3. This is, of course, not the case in certain localities and in many homes, but it is still the fact that children usually have made some progress in developing a number sense before they enter school. How extensive this is should be determined by the teacher as soon as convenient, and on this knowledge and equipment she should build.

EARLY USES FOR NUMBER. In order to ascertain the pupil's intellectual equipment in number at the beginning of Grade I, it is desirable to make as much incidental use of the subject as seems reasonable. This is done by creating such number situations as the following:

1. Stating the number of children absent. This usually results in a much smaller number than that which represents the number present.
2. Counting the number of children present.
3. Reading the numbers of the pages in any book that may be in use by the pupils, and counting the pages that have pictures on them.
4. Reading the day of the month as written each morning on the board.
5. Numbering the hooks in the cloakroom.
6. Number games selected from those mentioned on pages 404 to 412 of Chapter VI.
7. Counting objects for the purpose of establishing the

number sequence, the ideas of "first," "second," and so on (the "ordinal numbers"), and the notion of the number in a group.

It is through such simple applications that the number concept, already somewhat developed in the child's mind, is extended in the most natural manner. This should constitute the principal part of the work in the beginning of Grade I. To children who have been in the junior primary or kindergarten class, most of this work and play is already quite familiar, and they should be encouraged to go as far in this kind of number study as their tastes may dictate.

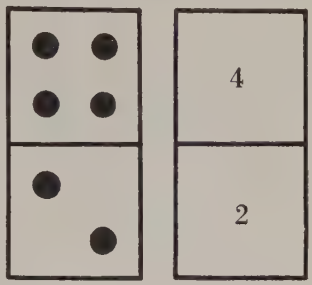
EQUIPMENT FOR THE WORK

No elaborate equipment is needed for the work in Grade I. Pestalozzi, the celebrated Swiss teacher of upwards of a century ago, to whom we are indebted for his notable work in teaching number to young children, made use chiefly of ordinary sticks and pebbles. His results attracted the attention of the whole world. In our day we are under no necessity of so strictly limiting ourselves with respect to equipment, and the following brief list shows some of the simple material that it is desirable to have in the classroom:

1. Kindergarten blocks, pegs, and sticks.

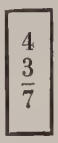
2. An abacus or number frame, although this will seem somewhat artificial to the children unless each is supplied with one. Its chief advantage is that it permits of the natural teaching of tens, ten being the basis of our system of counting. The fingers of the two hands formed the world's first abacus arranged by tens, but there is some danger in emphasizing this fact lest the pupils acquire the habit of counting on their fingers instead of learning the addition facts. This danger, however, is not so great as it was before the schools came to recognize the value of rapid oral drill, systematically pursued. Children soon get lost in this kind of work if they try to depend upon counting their fingers.

3. Domino cards. These should be made large enough to be seen across the room. If any pupil cannot see them distinctly, his eyesight should be considered by the school principal. Not infrequently children are thought to be stupid simply because their eyes are not normal. Such domino cards are valuable in the recognition of numbers, but the fronts are not suitable for drill in addition, leading as they do to counting the sums instead of learning the combinations. The backs, however, may be used for drill in addition and in multiplication.



4. Addition cards with the sums on the backs so that the teacher can tell each sum without turning the card. Such cards as those here described are easily made out of stiff pasteboard, or they can be purchased from school supply houses.

5. "Flash cards," of which there are various types. Some are of the addition type mentioned above, with the answers on the back. Others give the sums on the front. The latter may be arranged along the chalk rail at the board, and the teacher may say, "Bring me '3 and 4 are 7'." The pupil then goes to the board, picks out the card and returns, saying, "Here is the card, '3 and 4 are 7'." The cards permit of group contests and of other uses which will naturally occur to the teacher. One of them involves number guessing, as when the teacher says, "I am thinking of a card on which the sum (or answer) is 7; who can tell me which card it is?" The cards contain any one of these combinations.



0	7	1	6	2	5	4	3
7	0	6	1	5	2	3	4
7	7	7	7	7	7	7	7

and the pupil's chance of guessing the right one the first time

is only one out of eight. This is, of course, all in the nature of a game.

6. Rulers with inch divisions. For the work in Grade I the divisions into eighths of an inch are not necessary; but rulers are usually so divided and this does no harm in this work. Pupils obtain an idea of the meaning of the foot and inch, they are interested in measuring their desks and other objects, and the fractional divisions render the work in fractions the easier when it is taken up a little later.

7. A yardstick, divided as usual into feet and inches.

8. Materials for a few simple games such as those mentioned on pages 404 to 412.

LEARNING NUMBERS

Numbers from 1 to 100. The most important topics of Grade I are: (1) the reading, writing, and counting of numbers from 1 to 100; (2) the meaning of $\frac{1}{2}$; and (3) simple additions. These will now be considered in some detail.

Reading, writing, and counting numbers from 1 to 100 are usually taught informally in the first half of Grade I. All the work should be developed concretely and in the spirit above suggested. For example, the counting should be related to the number of pupils, of pages, of blocks, of desks, or of other objects in the room.

Attention should be called to the numbers on the cloakroom hooks, where such numbers are used; to counting out supplies used in class; to counting the numbers on the clock face, and to keeping scores in games. In some schools the pupils may also apply numbers to paying for lunches and to handwork.

There is much to be gained by emphasizing the number work incidental to other school activities. For example, as already suggested, the page numbers of the book may be mentioned in connection with the work in reading; in the work in drawing the pupils may be asked to draw pictures of two houses, of three trees, and so on; in nature talks atten-

tion may be directed to the counting of flowers, birds, and trees; and in using building blocks, number may be applied to counting the number of blocks, of rows, of cubes in a pile, and so on.

Along with this work there should be practice in writing numbers on the board and on paper, with particular attention to directing the pupils in the best way of making each figure, in order to fix the proper habit before a bad habit is formed. This has already been mentioned on pages 324 and 325. There should be a large calendar in the room, and the day of the week and month should be written upon the board every morning, thus furnishing a continually evident reason for knowing the meaning of numbers. In particular, the calendar gives an opportunity for making clear the significance of the "ordinals" ("first," "second," and so on), since we naturally speak of "the first of February," "the twelfth of March," and other like dates.

Terms of Comparison. Counting, estimating, and measuring objects naturally leads to the use of comparative statements. Such terms of comparison as "greater" and "less," "larger" and "smaller," "thicker" and "thinner," "higher" and "lower," "faster" and "slower," "wider" and "narrower," "farther" and "nearer," and so on, should become familiar through continued use. There should be not only approximate comparison of this kind, but also exact comparison illustrated by such concepts as 7 birds being 1 more than 6 birds.

While these terms of comparison are not peculiar to arithmetic, they naturally fit into the number work of Grade I and should be emphasized at this time.

Our Number System. It is a good plan to tell the children some day how hard it was even for grown people in olden times to learn how to count.[1] Tell them that people finally came to count by tens because we have ten fingers (including, of course, the finger which we call the thumb).

[1]The author's *Number Stories of Long Ago* (Ginn and Company) will be helpful in this work.

In the second half of Grade I, or the latter part of the first half, the children are usually taught to count to 100 and to write the numbers.

In the writing of numbers the chief difficulty experienced by children is in seeing clearly the sequence of numbers from 10 to 19. Arrangements like the following will help to make it clear that these numbers are the same as those from 0 to 9, but with a 1 placed before them:

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19

After this is understood, the pupil will have little trouble in seeing that the rest of the numbers from 20 to 99 are formed in a similar way.

In connection with the development of the idea of numbers the following chart may be displayed in the schoolroom, and small ones may be placed in the hands of pupils:

A	0	10	20	30	40	50	60	70	80	90
B	1	11	21	31	41	51	61	71	81	91
C	2	12	22	32	42	52	62	72	82	92
D	3	13	23	33	43	53	63	73	83	93
E	4	14	24	34	44	54	64	74	84	94
F	5	15	25	35	45	55	65	75	85	95
G	6	16	26	36	46	56	66	76	86	96
H	7	17	27	37	47	57	67	77	87	97
I	8	18	28	38	48	58	68	78	88	98
J	9	19	29	39	49	59	69	79	89	99

The chart can be used in counting by 1's and also by 10's from 0 to 90 (row A), from 1 to 91 (row B), and so on. It should also be used in counting by 5's (rows A and F) and by 2's (2, 4, 6, etc.).

It will gradually come to be understood by the pupil that "number" means several things. For example, 3 is a position in a series; it may refer to "3 times as large"; it may refer to the number of feet in a yard; and it may appear in the idea of "third"—the ordinal number. Pupils should come to

understand all this quite naturally without any formal lesson on the subject and, of course, without any definitions.

THE INTRODUCTION TO FRACTIONS

The old idea that fractions must be taught by themselves, after the pupil can perform all the operations with whole numbers, has now been entirely abandoned. The fraction should be introduced, like everything else in arithmetic, when the child feels the need for it. Children hear the word "half" long before they enter school, and many of them have a fairly good idea of its meaning. Some of them also have some idea of the meaning of "quarter" and "fourth." In any case, the significance of "half" should be taught in Grade I, being introduced naturally in connection with the use of objects. The meaning of the term "half" and of the symbol $\frac{1}{2}$ should be made perfectly clear by using concrete illustrations such as half of a crayon, half of a piece of paper, half of a group of four children, half of an inch or of a foot, and a line that is half of another line. Folding paper into two equal parts is one of the best and simplest ways of showing children the meaning of "half." Teachers can easily find excellent material for such illustrations well within reach of pupils in Grade I.

Gradually it should come to be understood by the child that "half" has several meanings. For example, we may have (1) *half of an object*, as when we speak of half of an orange; (2) *half of a group of objects*, as when we speak of half of the class; (3) something *half the size* of another thing, as when we say that one room is half as large as another room, or that a child is half as tall as his brother; and (4) one object as being *half as heavy* as another, or *half as valuable*, or *half as beautiful*, and so on. None of these differences of usage should be the subject of any particular explanation, however; they should all come gradually and naturally into the child's mind as the result of various situations in which the word appears.

In some schools the fraction $\frac{1}{4}$ is introduced in Grade I. It

is not of much importance whether it is or not; if the pupil needs it, it should be used; the chief object is to render clear and real the idea of a fraction, and $\frac{1}{2}$ is the simplest and most natural fraction with which to begin.

ADDITION

Addition of Simple Numbers. It is generally agreed that children in the second half of Grade I have reached the age and acquired the experience demanding some knowledge of the addition facts, at least within the number space from 1 to 10. This means that, at this time, no combination of two numbers should be given in which the sum exceeds 10, and no combination of more than two numbers should be given at all.

The work in addition should be introduced in such cases as arise naturally in speaking of 2 books and 3 books. In this connection, the children should be trained to recognize the number of objects in groups not greater than five. In general, this is the limit of the "eye grasp" of the child—indeed, it is the limit for most adults, and there is no particular value in extending it. For this purpose, dominos or cards marked like them may be used, or marks or large dots may be placed on the board; but it should always be remembered that such devices are valuable only for recognizing the meaning of number names and for discovering (not drilling upon) number facts. If a teacher tries to drill upon the addition facts by the aid of domino cards, for example, she will merely encourage the pupils to form the bad habit of counting when they should be adding.

Number Drill in Addition. While addition in Grade I should in general be taught informally, some systematic drill on the addition combinations is helpful. When a pupil finds the "how many" in 2 and 3 by saying "two, three, four, five," he is counting. By finding it at first in this way he will more fully realize the meaning of the number fact. Then, after the presentation of the fact, sufficient drill should follow until

the pupil is able to recall the sum automatically upon seeing or hearing the numbers. He is then adding. The pupil should be shown that the advantage of adding is to save the time involved in counting, and should not be allowed to form the "counting habit" in addition.

The addition facts first illustrated by objects, counting, and so on, are the combinations with 1. The following table[1] may be used in drilling on these combinations:

2	3	4	5	6	7	8	9
1	1	1	1	1	1	1	1

These combinations should then be reversed as follows:

1	1	1	1	1	1	1	1
2	3	4	5	6	7	8	9

This random drill helps to make certain that the child is really memorizing the facts so that he recognizes the sum immediately instead of resorting to counting.

The following combinations of doubles as far as 5+5 (that is those in which the sum does not exceed 10) may then be introduced:

1	2	3	4	5
1	2	3	4	5

If it seems desirable in Grade I, the combinations involving 2, 3, and 4 may be taught after the combinations with 1 and the doubles have been drilled upon. The other combinations involving 2, in which the sum is not greater than 10, are as follows:

3	4	5	6	7	8
2	2	2	2	2	2

Similarly, the new combinations involving 3 are as follows:

4	5	6	7
3	3	3	3

[1] These tables have been worked out by various writers. The New York State *Syllabus for Elementary Schools* has a good set, and various ones there given have been used in this discussion.

The new combinations involving 4, in which the sum is not greater than 10, are as follows:

$$\begin{array}{cc} 5 & 6 \\ \underline{4} & \underline{4} \end{array}$$

If these facts are taught, they should be drilled upon in the order shown, then in the reversed order, and then at random as in the case of the 1 combinations.

While the drill on the combinations in the last three groups may be deferred until Grade II at the option of the teacher, it is well to teach these addition facts just as early as the child has the need or opportunity to use them.

For drill purposes the pupils should always see the numbers written in columns, as above. They should learn the meaning of the expression $2+3=5$, this being often a more convenient form in printing; but the vertical arrangement above shown is the one they will almost always use in practical computation, and this is the form which should become familiar to the eye. Flash cards and drill charts should always be arranged in this way instead of using the horizontal form.

PREPARATION FOR SUBTRACTION

While subtraction is not formally taught in Grade I, at least in most schools, the children will naturally come in contact with the idea. It is well to prepare for the work in Grade II by such drill as is suggested by the following questions:

Two and five are how many?
Two and what number are seven?
Five and two are how many?
What number and two are seven?
This may be placed upon the board as follows:

$$\begin{array}{cccc} 5 & * & 2 & 2 \\ \underline{2} & \underline{2} & \underline{5} & * \\ & 7 & & 7 \end{array}$$

It will be observed that this leads to the addition (or

making-change) method of subtracting which is discussed in the work of Grade II. The subject has been referred to under "Projects," on pages 329 and 330.

It should be clearly understood by the teacher that, as stated on page 371, there are several methods of subtraction. Whichever method the school adopts, the drill just suggested in valuable. From the fact that $2+3=5$ we come to know that $5-3=2$. Whether we learn the fact that $5-3=2$, or depend upon our knowledge that $2+3=5$ is of little importance in Grade I. The method that will finally be used is considered in the next chapter where we investigate the work of Grade II.

General Spirit of the Work. At the close of the year the teacher may profitably read again pages 311 to 316 and consider whether or not the work has been done in the spirit there suggested. Pages 320 to 323 should then be read with the same object in view. In particular, can the work next year be made more interesting, more sprightly, and more in harmony with the needs which the pupils feel as the result of their games and their simple uses of number in the home? Do the pupils, as they leave Grade I, have the equipment that is necessary for beginning the work in Grade II? Such questions, asked and answered by you, the teacher, will help greatly with the next class to be taught.

CHAPTER FOUR

THE WORK OF GRADE TWO

THE general purpose in Grade II is the same as that in Grade I, but of course the work itself is more extended and more systematic. The teacher, however, should keep in mind that the main purpose is to give the pupils the power to compute within the field of their immediate needs and interests. We do not teach arithmetic in Grade II with any desire to have the children learn definitions or rules or explanations; we teach it for the purpose of giving them ability to add and to subtract numbers such as, in general, they will meet with in their games and their simple purchases. If we go further, it is chiefly because of the pleasure they will derive, with a bright and inspiring teacher, in playing with numbers beyond their immediate needs and with the simpler facts of multiplication, all of which will prepare them for the work of Grade III.

A General View of the Work of Grade II. The work generally covered in Grade II relates to the following topics:

1. The reading and writing of numbers as far as 1000.
2. A continuation of the work in addition, covering all the necessary combinations of two numbers of one figure each—the so-called "addition combinations."
3. The subtraction facts based upon the addition combinations, the relations $2+5=7$ and $5+2=7$ leading at once to the subtraction facts $7-5=2$ and $7-2=5$.
4. An introduction to the multiplication combinations found in the tables of 5's, 2's, 10's, 4's, and 6's, in the order here given.

Not a Fixed Course of Study. The above outline is not to be considered as a fixed course of study, however. If the pupils in your school have not studied any of the work suggested in the preceding chapter for Grade I, then that

work should first be covered. In any case it should be reviewed. The first few days of any term, especially after the summer vacation, should always be given over to a systematic review of the operations learned in the preceding term. The general view expressed on page 344 merely sets forth the leading topics considered in some of the progressive schools in this country. It has been proved to be perfectly feasible and it lays a good foundation for the work in Grade III.

READING AND WRITING NUMBERS

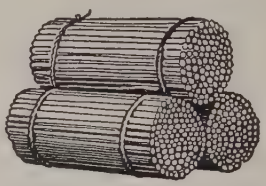
Whatever plan of work is followed in Grade I, children usually enter Grade II with a fair knowledge of counting and of reading and writing numbers from 1 to 100. Even though they do not often need the larger numbers in their games or simple purchases, they like the rhythm of counting. This is seen in their pleasure in counting by tens, then by fives, and then by twos. There is an advantage in extending this work to counting next by fours, and then by the other digits, the reason being that the pupil is thereby being trained on the addition combinations and is unconsciously developing those needed in multiplication as well. In counting "2, 4, 6, 8, 10, 12," and so on to 20, the pupil is really repeating the multiplication table of 2's, although of course not in the ordinary way. It is always desirable to lay such foundations for future work.

Children will now be interested in carrying their counting to 1000, first in counting by 100's, and then in reading and writing numbers like 120 and 125. The general scheme of development of the idea of numbers beyond 100 may be seen from the following questions:[1]

1. Here are 4 bundles of sticks, 10 in a bundle. How many sticks are there? Write the number on the board.

[1] A few illustrations of this kind have been taken from the Smith-Burdge *Primary Arithmetic*, with the permission of the publishers, Ginn and Company.

2. When there are 5 such bundles of sticks, how many sticks are there in all?
Write the number on the board.



3. Here are 3 bundles of sticks, 100 in a bundle.
How many sticks are there?
Write the number on the board.
Suppose that there were 400 sticks more.
How many sticks would there be then? Write this number on the board.

4. Here is a larger bundle of sticks, containing as many sticks as there are in 10 bundles of 100 each.
How many hundred sticks are there in this bundle?

5. What is the name for ten 10's? What is the name for ten 100's? How many 10's are there in 100? How many 100's are there in 1000?

6. How many sticks are there in this picture?

300

40 2

The number 342 is read "three hundred forty-two." Read each of these numbers:

7.	300	340	343	100	200	110	202	500	204	402
8.	400	490	492	404	430	421	990	900	909	606
9.	101	612	700	808	905	111	999	750	770	707

This device may be used without any textbook. Wooden toothpicks furnish a convenient set of sticks for the purpose. Do not, however, keep the children too long upon objective work of this kind. Remember that we rarely attempt to form a mental picture of a large number. What we do is to think of a number as representing a stopping place in a series, 250 being a number in the series, 247, 248, 249, 250, 251,

252, and so on; that is, it is a number lying between 249 and 251. This is precisely what the child will do. He will not long recall that it can be represented by two bundles of 100 sticks each, five bundles of 10 each, and no single stick.

When the children show that they can go naturally beyond 1000 in reading or writing numbers, they should be allowed to do so, but the range of their ordinary interests is usually covered by the numbers from 1 to 1000. The idea of numbers should be related to the everyday experiences of the child. For example, children in the city will naturally be interested in the numbering of streets and houses, and all children should be familiar with the number of the year.

It is probably needless to say that such terms as "notation" and "numeration" have no value in Grade II or, for that matter, in any other grade. They are practically obsolete except as we speak later of the Roman notation, fractional notation, and the like.

ADDITION

Pupils usually learn a certain number of addition facts in Grade I. The work that can safely and advantageously be accomplished in that grade is discussed on pages 340–342. Teachers should review such work at this time; or if it has not been given there, it should now be taken up in the general order mentioned. This being accomplished, the pupils are ready to consider that which properly belongs to this grade.

This work includes the addition facts up to 9+9. Although the facts themselves should be introduced by the counting of objects, these intellectual crutches should be laid aside as soon as they have served the purpose of showing each combination—for example, that 5+3=8. After the fact is established the relation should be memorized, and there should be so much rapid drill upon the combinations that the response to "5+3" should be automatic; that is, the pupil should give it without counting, without delay, and practically "without thinking."

The following charts[1] represent approximately the order in which the addition combinations are most advantageously taught: Chart A represents the simple addition combinations making 10, and their reverses:

CHART A

5	9	8	7	6	1	2	3	4	10	0
5	1	2	3	4	9	8	7	6	0	10

The zero combinations, 10+0, 0+10, may be omitted if desired, thus limiting the numbers added to those of only one figure. In general, however, zero combinations should have the same attention as any others.

Teachers should observe that this drill chart, which should, of course, be written on the board, gives the additions in vertical columns. It is desirable to give most of the drill in this form, rarely using the horizontal form, such as 3+7, for this purpose. When we are called upon to add, we almost invariably add columns of numbers, not rows, and it is with this arrangement that the child should become familiar. For economy in printing a statement it is necessary to have such forms as 3+7, but when it comes to the actual work this should be written in the column form as here shown.

7
3
10

After becoming familiar with Chart A there should be drill upon one pair at a time, the work being first arranged in groups "by endings" like these:

5	15	25	35	45	55	65	75	85	95
5	5	5	5	5	5	5	5	5	5
10	20	30	40	50	60	70	80	90	100

This having been accomplished, there should next be a

[1] This arrangement, the result of long experience, has been adopted in many cities and in at least one state (New York). The charts here shown are reproduced from the *Teachers' Manual* to the Smith-Burdge arithmetics, with the permission of the publishers, Ginn and Company.

drill upon these forms but with one of the numbers missing, here represented by *, as follows:

*	5	*	5	5	85	*	5	*	5
5	*	30	*	65	5	5	*	15	95
10	25	35	45	*	*	100	75	20	*

There should also be introduced in this connection the zero combinations already mentioned. To an adult it seems perfectly evident that $7+0=7$, that $0+9=9$, and that $0+0=0$; but to a child these forms are often quite as difficult as those like $7+3=10$. Children should write out their own tables, beginning as follows:

0	1	0	2	0	3	0	4	0	5
0	0	1	0	2	0	3	0	4	0
0	1	1	2	2	3	3	4	4	5

and so on, always stating the reverse form, as in $0+1$ and $1+0$. To an adult this seems unnecessary, but a child may readily state that $0+7=7$ while having trouble with the reverse form, $7+0=7$.

Each combination in Chart A should be treated similarly. For example, the $9+1$ and $1+9$ combinations would be presented first in groups with these endings, written with the answers in this form:

1	11	21	31	41	51	61	71	81	91
9	9	9	9	9	9	9	9	9	9
10	20	30	40	50	60	70	80	90	100

As in the preceding case, such a table should be written with one number omitted in each case, with the order of the numbers reversed, and with the combinations written in various orders.

The drill on combinations by pairs leads naturally to column addition. The columns of figures should be planned so that each column shall contain only those combinations and series which have been studied. Enough columns should be given so that each step in the previous drill is included in the column work. Most of the column addition should be done orally until "carrying" is involved.

The following examples show how columns of one-figure numbers may be arranged to illustrate the combinations 9+1, 1+9, 5+5, and these plus one other number:

									9
									5
			4	5	0		3	4	5
			9	9	1		9	5	9
		5	1	1	9	7	1	5	1
9	1	9	9	5	9	9	5	1	9
1	9	1	1	5	1	1	5	9	1
9	9	9	9	5	5	9	1	5	5
1	1	1	1	5	5	1	9	5	5

After studying and drilling upon the pairs whose sums are 10's, the next step leads us to the case of doubles; that is, two 5's, two 7's, and the like. This work is given in the second basal chart, as follows:

CHART B

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

This should, as in all such cases, lead to drill by endings, the following being simply a few types:

10	20	30	11	21	31	12	22	32
0	0	0	1	1	1	2	2	2

When we come to 5+5 a new feature is introduced as is evident from the following:

15	25	35	16	26	36	47	57	67
5	5	5	6	6	6	7	7	7

After Charts A and B and their related groups of combinations with similar endings have been drilled upon, the work may be extended to more difficult cases of column addition involving "carrying." No combination should be introduced which has not been studied in Chart A or Chart B. In making up columns of two and three figures, attention must be given to carrying to the next columns only such figures as

will make some one of the combinations studied. The following columns illustrate possible arrangements:

				7	51	89	32	567	543
	3	9	7	7	29	71	28	423	427
	6	6	7	2	85	37	51	896	896
8	7	7	5	9	35	83	26	897	897
8	7	7	5	9	73	28	43	667	647
6	6	4	6	4	57	62	42	776	782
7	7	8	7	8	56	45	41	777	789
7	7	8	7	8	64	65	37	557	559

The next step may well be a review of the combinations making 9 or numbers ending in 9. For example, the first drill would include the following combinations:

CHART C

1	3	4	2	8	6	5	7	0	9
8	6	5	7	1	3	4	2	9	0

This should be extended to include numbers ending with 9, the following being merely examples of the work to be done:

11	21	13	23	14	24	12	22	18	28
8	8	6	6	5	5	7	7	1	1

After all the steps for each pair in Chart C have been developed, there should be drill on the combinations making 8 and numbers ending in 8, as follows:

CHART D

7	5	6	1	3	2	4	0	8	9
1	3	2	7	5	6	4	8	0	9

CHART E

It is usually recommended that Grade II should not carry this series of steps beyond the following group in which the sum is 7 or ends in 7:

6	4	5	9	1	3	2	8	0	7
1	3	2	8	6	4	5	9	7	0

The other simple combinations making 6, 5, 4, 3, 2, and 1

respectively, or with sums ending in these digits, should be taught, but they need not be developed in the series of steps recommended for Charts A–E. These combinations may be arranged simply as follows:

CHART F (the endings in 6)

1	2	9	5	4	7	3	0	6	8
5	4	7	1	2	9	3	6	0	8

CHART G (the endings in 5)

1	2	7	6	4	3	8	9	0	5
4	3	8	9	1	2	7	6	5	0

CHART H (the endings in 4)

1	5	6	3	9	8	0	2	4	7
3	9	8	1	5	6	4	2	0	7

CHART I (the endings in 3)

1	4	6	5	2	9	7	8	0	3
2	9	7	8	1	4	6	5	3	0

CHART J (the endings in 2)

3	5	4	7	9	8	1	0	2	6
9	7	8	5	3	4	1	2	0	6

CHART K (the endings in 1)

2	3	4	5	9	8	7	6	0	1
9	8	7	6	2	3	4	5	1	0

After completing these charts, which present the number combinations in a systematic manner, the pupils should write out an addition table, either in columns form or in horizontal lines, beginning with the combinations with 1, then taking the combinations with 2, and so on, as follows:

0+1=1	3+1=4	6+1=7	9+1=10
1+1=2	4+1=5	7+1=8	10+1=11
2+1=3	5+1=6	8+1=9	11+1=12

Of course we may omit 10+1 and 11+1 if we wish, since they are practically included in 0+1 and 1+1. The table of

2's begins with $0+2=2$, $1+2=3$; that of 3's begins with $0+3=3$, $1+3=4$, and so on.

After this is done there should be a great deal of attention given to random drills, "skipping about" the addition table, as in the following combinations:

9	7	4	5	8	0	3	2	4	7
2	3	8	7	6	5	8	1	5	7

FURTHER SUGGESTIONS WITH RESPECT TO ADDITION. It will probably be helpful to teachers if a few words are said concerning the psychology of the teaching of addition. An analysis of the psychological sequence in the teaching of addition reveals the following steps necessary for a complete presentation: (1) learning the facts through play; (2) summarizing the facts in a complete table; (3) random drill upon the facts; and (4) drill upon the troublesome groups discovered.

It is of great importance that the child be trained to recognize immediately the sum of any two one-figure numbers. While a large amount of drill on this feature is provided in most textbooks intended for Grade III, the best results in Grade II are obtained from the use of drill cards like the one here shown. By holding the cards up rapidly in front of the class the teacher can give a large amount of drill in a short time. The cards also offer opportunities for group contests, for the discovery of the particular difficulties of backward pupils, and for brief drills to maintain efficiency.

Sets of cards of this sort can be purchased by the school or can be easily made by the teacher. The answer should be placed on the back so that the teacher can see it without stopping to turn the card. A convenient size for the cards is about 5 inches by 7 inches, and the figures should be made large and clear so that they will cause the pupils no eye-strain. The same set of cards can be used for multiplication if the products as well as the sums are written on the backs.

A child should be able to read the combination $9+7$, when written vertically on a card, as above shown, giving the

answer as "16" without thinking "7 and 9 are 16," just as he reads "cat" without thinking "c-a-t, cat." It is unreasonable, however, to expect a pupil to be able to state at sight the sum of 6, 7 and 9, because there are so many ways of arranging three numbers of one figure each that it would be almost impossible for a pupil to learn to give at sight the sum of any three; nor is there any reason why he should.

Some teachers feel that there should be a plus sign (+) placed before the lower figures, as here shown, so that the child will know that he is to add instead of subtract, and that the minus sign (−) should be similarly placed in subtracting. It is not a matter of much importance in itself, because the child is told what to do anyway, and so these symbols are not necessary. There is, however, one rather serious objection — that it teaches a habit that must soon be forgotten. Not only is the sign never used in this way in business, but when the pupil comes to study algebra it will always prove to be a source of annoyance and a cause of many errors.

$$\begin{array}{r} 9 \\ +7 \\ \hline \end{array}$$

Another question that arises in Grade II relates to the direction to be taken in adding a column of figures. In the case here shown, which is well within the reach of the pupils of Grade II, shall we say, "2, 10, 17" or "7, 15, 17"? In other words shall we add up or shall we add down? From one standpoint the question is rather trivial, since we tell pupils to add one way and check by adding the other way, so that they add both up and down. The argument for adding down is that the result is written at the bottom and it is desirable to write the result as soon as we finish. That the argument is rather childish, however, appears from the fact that, in additive subtraction as described on page 355 we do just the opposite, and that this does not seem to disturb the advocates of this method.

$$\begin{array}{r} 7 \\ 8 \\ 2 \\ \hline 17 \end{array}$$

The fact is that schools do not determine what the business world shall do, and the business world adds upward because

it is more convenient, when pointing at the figures with a pencil, to run the pencil upward, where we can look ahead easily, than to run it downward where it obscures the figures below. It is never a good plan to let a mere notion lead us to go counter to what the world does, so that a child will have to unlearn a process. Since most of the addition we perform is in the checking of bills, and since we shall naturally add upwards in this operation, it is a mistake for the schools to force a child to add downwards. Among the absurdities of the schools, there is occasionally, but fortunately very rarely, seen the notion of adding upward and then placing the result at the top.

Another eccentricity of some teachers is to require that the sign + should always be read "and," and that the sign = should be read "is" or "are." There is no harm in this for a few days; but we should teach in school the customs of the world, and the words "plus" and "equal" are in common use. It should be observed, however, that the business world pays little attention to these symbols, addition always being considered vertically without any signs.

SUBTRACTION

It is advisable that the work in subtraction be carried along with the work in addition. The advantages of the additive method of subtraction (called also the "making-change method" and the "Austrian method") are discussed on page 371.

It is apparent that the transition from the addition facts making 10 to the subtraction facts is very simple when the subtraction is presented in the form

9	8	7	6	5	4	*	*	*	10
*	*	*	*	*	*	7	8	9	*
10	10	10	10	10	10	10	10	10	10

The pupil simply thinks "9 and *1* are 10," or the reverse, "1 and *9* are 10," and so on. This being understood, the next

step in the teaching process is to arrange the preceding groups in this manner:

10	10	10	10	10	10	10	10	10	10
9	8	7	6	5	4	3	2	1	0

As has already been stated in speaking of addition, many teachers wish the sign indicating the operation used before the number subtracted. The argument is that the pupils otherwise do not know whether they are to subtract or to add or multiply. Of course this is just as well told by saying "Add the following," "Subtract the following," or "Multiply the following," so that there is really but little point to the argument. Moreover, children should learn business forms which they will use in life, and the minus sign is never used in this way in any type of practical problem, and in algebra its use would cause great confusion. While, therefore, we who write textbooks are often compelled by certain courses of study to insert the sign in column subtraction, those who look at the matter in any large way know that, while the sign may be used at first without much damage, it should be abandoned at the earliest possible moment. The question of the various methods of subtraction is considered on page 371.

10
−9
1

After the above combinations have been studied, the teacher should write them on the board arranged in various ways, as follows:

10	10	10	10	10	10	10	10	10	10
8	4	7	1	5	9	2	0	6	3

In the first of these cases the pupil says "8 and 2 are 10," writing the 2 underneath, and similarly for the others.

The doubles must also be considered in subtraction, as follows:

18	16	14	12	10	8	6	4	2	0
9	8	7	6	5	4	3	2	1	0

The pupil says, "9 and 9 are 18," writing the 9, and so on for the others.

After the combinations making 10 are learned, the following combinations of 9 should be considered at the same time that the addition pairs making 9 are being studied:

9	9	9	9	9	9	9	9	9	9
5	6	8	3	4	1	2	7	9	0

It is found by repeated experiments that children enjoy carrying these subtractions into the field of much larger numbers—larger indeed than they can comprehend. A certain amount of this work is permissible in Grade II although it should be limited as to difficulty. At first there should be no "borrowing"—to use a familiar word which, although objectionable in some ways, is quite as good as any that has been suggested to replace it. The following, containing only the 9's combinations and the doubles, represents the first steps:

99	99	99	999	999	998	997	996	9994	9998
77	72	21	222	102	224	303	303	8762	1204

In the first of these cases the pupil says, "7 and 2 are 9," writing the 2; "7 and 2 are 9," writing another 2. Instruct the pupil to begin at the right, so that he shall not form habits which he must break.

Since the 10's combinations in subtraction as well as the 9's have been learned, these may be combined as follows:

109	109	109	109	108	108	106	104	102	100
87	89	72	60	4	64	63	52	21	10

In the first of these subtractions the pupil says, "7 and 2 are 9," writing the 2; "8 and 2 are 10," writing another 2. In this way the subtractions are based upon the addition facts already known.

The same kind of work, as shown in the following cases, should be given with larger numbers in order to increase the span of attention:

1099	1099	1099	1099	10999	10999	10998	10996	10994
55	29	150	463	8642	7620	7624	8123	7192

In connection with these cases, it should be observed that even when the reading of numbers is not carried beyond 1000 in Grade II, the pupils will have no difficulty in adding and subtracting larger numbers as given here. For this purpose it is not necessary at present to separate a number into periods of three figures each. When the number is to be read, as in Grade III, such separation is desirable.

It is not necessary to introduce at this time any cases involving borrowing. If, however, any teacher cares to do so, she will find the pupils quite ready for one borrowing, or as some teachers say, "one change." In that case the following types may be used:

90	90	90	970	980	990	9890
50	12	65	35	475	89	1749

It should be observed that no one of the above subtractions involves any work not already familiar. In the fifth case (980−475) the pupil should say: "5 and 5 are 10," writing the 5; "8 and 0 are 8," or else "7 and 0 are 7," "4 and 5 are 9."

The next work in subtraction involving borrowing may require borrowing twice, as in the following cases:

1990	1860	1890	1890	1720	1630	1624
896	946	908	946	816	714	817

In case the school decides to include this work in subtraction, the final degree of difficulty for Grade II should be subtractions involving three borrowings, as in the following cases:

1470	1770	1580	1520	1772	1134	2974
485	885	785	863	886	565	987

MULTIPLICATION

The work in multiplication as a whole belongs to Grade III. It is, however, possible to have counting by 10's and then ask for the value of two 10's, three 10's, and so on to

nine 10's. Children like to count in this way, particularly if shown the relation between

and	1	2	3	4	5	6	7	8	9	10
	10	20	30	40	50	60	70	80	90	100

They then like to count by 5's, particularly if they see the following relation:

5	15	25	35	45	55	65	75	85	95
10	20	30	40	50	60	70	80	90	100

Counting by 2's, 4's, and 6's gives the multiplication tables of these numbers, and children usually enjoy making them. The work is not, however, an important part of the offering of Grade II.

If the above work in multiplication is taken up at this time, as soon as the facts of the tables are learned they may be applied in simple examples of multiplying a two-figure number by a one-figure number. The work may be illustrated by simple problems, but not much time should be spent upon the subject.

Spirit of the Work. As to the spirit of the work in Grade II, the teacher should read pages 312 to 316, remembering each day that the pupil's success depends largely upon the interest shown by her, upon the joy the pupils receive from the number games and contests, and upon their feeling of conquest in the field of computation. On the subject of games that may be used, the teacher should read Chapter VI, page 404, remembering that "all work and no play" is no worse than "all play and no work," and that there is a happy medium which she should seek if her work is to be a success.

CHAPTER FIVE

THE WORK OF GRADE THREE

GRADE III usually carries the work in addition as far as the adding of six numbers, each of which may include thousands; the work in subtraction as far as the subtraction of thousands, including dollars and cents; the work in multiplication as far as multiplying by a number of two figures, the number multiplied to include dollars and cents; and the work in division as far as short division with a divisor of one figure, including the case of a remainder. The work in measuring includes the simpler tables in common use, and that in fractions carries the fractional parts as far as finding $\frac{3}{4}$ of a small number.

BEGIN WITH A REVIEW. There is always a complaint that pupils come to every grade quite unprepared for the work. This complaint runs all the way along the line from Grade I to the graduate work in the university. The trouble, however, is not due so much to the lack of good work in the preceding year as to the very evident psychological fact that we all tend to forget those things that we are not using. This is particularly the case with young children who, during a summer vacation, are usually thinking of many other things than such addition combinations as $5+7$.

Since the formal textbook is usually placed in the hands of children at the opening of the third school year, it becomes particularly important to have a systematic review of the work of Grades I and II at the beginning of this grade. The textbooks usually provide for this, and by their help these important things are accomplished: (1) The children's memories are refreshed as to the essential features of the preceding year's work, namely, the addition table, and the multiplication table as far as the course of study may require. (2) Children are "rounded up," brought to a somewhat uni-

form standard, so that all can begin the serious use of the textbook with approximately the same equipment. (3) The superior capacity or the defect of the individual has an opportunity to show itself early, allowing for such advancement or special attention as the case demands. In other words, the "lockstep" can be broken without the usual delay, individual differences in pupils are easily ascertained, and the teacher knows what to expect from her class.

For details of this review the teacher should read carefully the work relating to Grade II in the preceding chapter. Make the review sprightly and interesting, like a game. It is surprising to see how rapidly children will do oral work if they are encouraged to attempt it. Remember that accuracy is far more important than speed, but speed in itself usually results in greater accuracy than can be obtained by a child who simply dawdles over his work.

Your textbook will supply material for review; use it both for oral and written work, and encourage the pupils to see how much of a page they can cover in oral answers in a limited time—say two minutes. Do not feel that you should devote the first two weeks to abstract drill; that would be very stupid for the class. Review all the combinations a few at a time.

READING AND WRITING NUMBERS

In general it is a good plan to introduce new things when you can actually use them. We come, in Grade III, to make considerable use of numbers running into the thousands, and so the pupils should be able to read them. It is quite sufficient if they read and write them at first to 1000, an ability which has been acquired in Grade II. Whenever a number like 5275 is met in addition, a little time may be taken to the reading and writing of other numbers of about the same degree of difficulty, especially if the child has forgotten or has never learned the number names up to 10,000. If a result runs beyond this point, a need is established for larger

number names, and this should be met. Indeed, as soon as the pupil understands numbers to 1000 he rather enjoys showing his prowess by counting by 1000's and by writing large numbers. Counting always extends far beyond the needs of computation—a law that is true today and has been true in the historical development of all peoples. Men and women may speak of the expenses of running the government as extending into billions of dollars, but so far as operating with such numbers is concerned, most of us have no need for it or any recollection of having studied it.

Separating into Periods. A question is occasionally raised as to the desirability of "pointing off" a number into "periods" of three figures each, as in the case of the number 2,376,484. Numbers of this size are not given in Grade III, but numbers like 10,008 are quite often used in adding and subtracting at this stage of the work, and so the question may properly be considered.

There have been writers at various times who did not thus "point off" the large numbers. It was quite the common thing a century ago to write a number like 2078365 without any commas. All such matters have their periods of fashion, when those who do not give them much thought simply tend to follow the crowd. Let us see what the merits of the case are.

Psychology tells us that we all have a certain "eye grasp." We can easily grasp about four or five things at a time. If we look at these dots (. . . . .), we can probably tell the number at once. In the case of (. . . . . .) we will very likely have to count, or at least think of the dots in two groups. If we see a number like 1930, we readily read it; but if we look at the number 71238, we must stop to think before we decide whether we have 712 thousand, 7 thousand or 71 thousand. If we write 71,238, the eye has no difficulty at all. This is still more apparent with a number like 14896297, where any of us would have difficulty in reading it or in estimating its value unless it were written 14,896,297, and similarly for a number like $142483296.49.

If we do not care to read the number, it makes no difference

whether we have commas there or not. This leads some writers to give examples in addition with numbers as large as those here shown, not expecting the children to know how to read them, but wishing simply to drill on the mechanical process.

781946
12013

In practical business whole numbers with more than four figures are always separated into groups of three figures, sometimes by leaving spaces, as in the case of 12 478 200, or more often by using commas as in the writing of 12,478,200. In banks, where reports are made on an adding machine, the spaces are used. In printed reports the commas are generally used.

The question now arises as to what should be done in Grade III. Since we are fixing children's habits at this time, it seems unquestionably better to use the "periods" of three figures each, for numbers with more than four figures. The child thus acquires the habit which he will need in actual life. The school is doing enough things already that run contrary to business customs and it is not desirable to add to the confusion.

For numbers of only four figures, as in dates like 1931, the comma need be used only in cases in which we are adding or subtracting and in which a number of more than four figures occurs, as here shown.

$17,236
14,072

Roman Numerals. As to the Roman numerals, their introduction should depend only upon the pupil's needs. In Grade III he will see books with their chapters numbered in Roman, and he should be able to tell what these numbers mean. He will be much more interested in the subject if you will take a few minutes to tell the class who the Romans were, about when they were so powerful as to rule a considerable part of the world as then known, and what a rather curious way they had of writing numbers. It is hardly necessary to carry the numerals beyond XII for clock purposes or beyond XX for reading unless some pupil can tell of books with chapters extending beyond twenty. Do not

try, in this grade, to teach the writing of the year in Roman, but answer any question that the pupils may ask concerning it.

MONEY

The pupils in Grade II learn about our common coins. In reviewing the work in Grade III, have these coins (cent, nickel, dime, quarter, and half dollar) to show to the class. Have also either a silver or a paper dollar. Then review as follows:

5 cents = 1 nickel
10 cents = 1 dime
100 cents = 1 dollar

We often write ¢, c., or ct. for cent or cents, and $ (often with a single line across the S) for dollar or dollars.

1¢ means 1 cent
20¢ means 20 cents
$5 means 5 dollars
$10 means 10 dollars

Then take up such questions as these:

1. How many 1-cent coins does it take to buy as much as 1 nickel will buy?

2. Suppose that you wish to buy a ticket for the "movies." If the ticket costs 10¢, how many nickels do you need? How many dimes do you need?

3. Ruth wishes to buy an orange that costs 10¢. She has a nickel and some 1-cent coins. How many 1-cent coins does she need besides the nickel?

4. How many 10's make 100? How many dimes does it take to buy a book that costs $1?

5. We have learned that ¢, c., and ct. all mean cent or cents. Read these prices: 7¢, 8c., 6 ct.

In this review you will not need to write dollars and cents, as in the case of $1.25. Later in the year this will be given in

connection with measures. The work given above is sufficient for simple projects in storekeeping and shopping, of which the following is a type:

AT THE TOY STORE[1]

Box of Tricks
80¢

Large Ball
60¢

Fire Engine
$1

Dominos
50¢

1. If you wish to buy the box of tricks, and have only 50¢, how much more money do you need?

2. Suppose that you have 40¢ and your uncle gives you 20¢ more. Which toy will you then have just enough money to buy?

3. If you have 80¢, you can make four choices of one or two toys. Name all the choices.

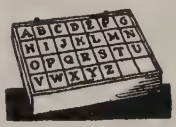
4. If you have $1, and buy the steamship, how much do you have left?

5. If you have $1, and buy the beads, what else can you buy with what is left?

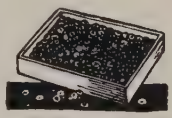
6. If you have 75¢, and buy the blocks, how much do you have left?

7. If you had $1 to spend for toys, what ones would you buy?

Steamship
90¢



Blocks
40¢



Beads
80¢

Singing Tops
20¢ Each

ADDITION

As already stated, review all the combinations learned in Grade II, but do this with a few combinations at a time. Do not feel that you must follow the exact order of any textbook, however good it may be; select your material to suit

[1] This lesson is taken from the Smith-Burdge *Primary Arithmetic*, with the permission of the publishers, Ginn and Company.

your particular class. The textbook is intended to help you, not to dictate to you.

In general you will find it advantageous to cover such points as these, writing the work on the board and making flash cards (see p. 335) to assist you in the rapid oral drill:

SUMS ENDING IN 0

5	8	4	9	6	3	0	2	7	1
5	2	6	1	4	7	0	8	3	9

The pupil should by this time be far enough advanced for the work to be given in irregular order, as shown above, instead of being given as was done at first in Grade II. The + sign may be written before the lower number if desired, but there are some objections to doing so, as mentioned on page 354.

THE CASE OF DOUBLES

1	7	5	9	2	6	3	8	4	0
1	7	5	9	2	6	3	8	4	0

SUMS ENDING IN 9

3	7	1	9	8	2	0	4	5	6
6	2	8	0	1	7	9	5	4	3

SUMS ENDING IN 8

1	5	2	6	7	3	8	4	0	9
7	3	6	2	1	5	0	4	8	9

SUMS ENDING IN 7

0	3	5	7	1	8	2	6	4	9
7	4	2	0	6	9	5	1	3	8

In most of the above cases the results do not exceed 10, and therefore most if not all of them are commonly taught in Grade II, so that this is review work.

The other combinations are often reserved for Grade III. They are as shown on pages 367 and 368.

SUMS ENDING IN 6

0	4	1	5	6	2	7	3	8	9
6	2	5	1	0	4	9	3	8	7

As in Grade II, these combinations should be extended, in oral drill, to include work of the following type:

20	50	31	41	72	92	33	63	54	74
6	6	5	5	4	4	3	3	2	2

85	35	46	96	17	37	19	29	18	58
1	1	0	0	9	9	7	7	8	8

It should also be extended to column addition in which pairs occur whose sums end in 6, as in the following cases:

3	2	3	4	1	5	1	5	4	6
3	4	3	2	5	1	5	1	2	0
0	5	2	5	3	6	3	6	8	8
6	1	4	1	3	0	3	0	8	8
4	3	6	1	3	9	7	8	5	7
2	3	0	5	3	7	9	8	1	9

This work may then be extended to cases like the following, similar cases having been given in Grade II:

66	20	12	262	526	218
00	40	54	404	140	458
44	33	35	333	317	309
12	33	21	223	239	1237

It will be observed that these numbers are so arranged that the number carried always makes a six combination in the next column. Such drill work should be accompanied by special problems made up to use the particular combination being studied. The best styles of problems are those relating to marbles, to purchases, to the number of pupils in several classes, to scores in games, and the like.

SUMS ENDING IN 5

5	7	4	6	1	3	0	2	9	8
0	8	1	9	4	2	5	3	6	7

This work and that in the four cases which follow should be extended as in the case of sums ending in 6, as on page 367.

SUMS ENDING IN 4

2	4	0	1	9	6	8	5	7	3
2	0	4	3	5	8	6	9	7	1

SUMS ENDING IN 3

0	2	1	3	4	7	5	9	6	8
3	1	2	0	9	6	8	4	7	5

SUMS ENDING IN 2

0	1	2	3	7	4	9	5	8	6
2	1	0	9	5	8	3	7	4	6

SUMS ENDING IN 1

0	1	7	2	6	3	5	8	4	9
1	0	4	9	5	8	6	3	7	2

Explanation of Addition. In the above work, part of which is in the nature of a review, no explanation was attempted. Indeed, there is only one thing about addition that permits of much explanation. It should be borne in mind, however, that the aim of the work at present is mechanical efficiency—efficiency such as a machine has. We ourselves add automatically, that is, we do not stop to think of why we do this thing or that; what we aim at is the power to add, not to talk about adding. Nevertheless it is to be hoped that your class will be inquisitive enough to ask why you add one ("carry" one) to the next column in certain cases.

Do not trouble the children yet with the term "addend." It is of no value anyway, "number added" answering all purposes in the rare cases in which we need to give it any name. The word "sum" should enter naturally when it is needed. It is just as well to use the single word "result" for all these operations, but "sum" is in such common business use that it should be recognized in the schools.

Do not be afraid to use the word "plus" for the symbol +; it is in general use in daily life and the schools should therefore teach it. To call it "and" is a harmless but childish thing to do at first, but so long as children understand that "plus" relates to adding, there will be no harm in introducing the term early in the course.

The reason involved in the "carrying" process can best be brought out by talking matters over with the class, leading the pupils to ask questions, and seeing if someone in the class can readily answer them.

Some teachers have an objection to the word "carry," which has been in use for several centuries; but it makes no difference what word is used so long as the pupil can do the work with both accuracy and reasonable speed. While the work is being presented the teacher may use such simple devices as the one here shown, but as soon as this has been discussed in class, the pupils should at once return to the usual form.

FOR EXPLANATION		*FOR WORK*
39	39	
27	27	39
16 sum of units	16	27
50 sum of tens	5	66
66 sum of numbers	66	

With a little encouragement and with a proper use of speed tests it will be found that children can be trained to acquire proper habits of addition much more rapidly than might seem possible.

SUBTRACTION

The work in subtraction should be reviewed in the same general way as in addition, and it is advantageous to carry

the two right along together. Thus for the work in sums ending in 6 we have, for addition, some such arrangement as this:

SUMS ENDING IN 6

5	6	2	1	4	0	3	9	8	7
1	0	4	5	2	6	3	7	8	9

In this we may insert stars (*) to indicate missing numbers, thus leading to additive subtraction, as follows:

5	*	2	*	4	*	3	*	8	*
*	0	*	5	*	6	*	7	*	9
6	6	6	6	6	6	6	16	16	16

We may then tell the children to subtract in the following cases and state the answers rapidly:

6	6	6	6	6	6	6	16	16	16
4	1	3	0	2	5	6	8	7	9

They may think, "What number must be added to the smaller one to make the larger one?" In the first case this should lead them to say "4 and 2 are 6," the answer being "2."

Do not use the words "subtrahend," "minuend," or "difference." Simply speak of "the larger number," "the smaller number," and "the answer" or "the result." It is permissible but not necessary to introduce the difficult names in the upper grades, but they should go out of use, since they are very rarely needed anywhere, either in school or in daily business life.

The minus sign (−) may be written before the lower number if desired, but there are some objections to this plan, as already mentioned on page 356.

After such drill as the above, introduce simple problems relating to the children's interests. For example:

1. If you have 6¢ and spend 4¢, you have how many cents left?

2. If John has 6 marbles and loses 2 of them, he has how many marbles left?

Have the children make up such little problems and give them to the class.

Drills similar to the one given in connection with sums ending in 6 should also be given in connection with those ending in 5, 4 3, 2, 1, and 0.

THE PROCESS OF SUBTRACTION

The question of the process of subtraction has already been mentioned on page 355. As a matter of fact, you should know that there are several methods of subtraction in common use and none of them is new. For several hundred years the world has used all of them and has discovered that any one of them is about as easy to use as any other. It is, therefore, doubtful as to whether there is much choice. At present each school usually decides upon the one that it will use. Two things should be said however: (1) a pupil should acquire one habit and stick to it, since there is much more to be lost than gained in trying to change habits of this kind; and (2) if the process of subtraction is to be learned from the beginning, it is thought by many that the best method to learn is the "addition method" or "additive subtraction," thus far used in this department. It is also called the "making-change method," and the "Austrian method."

From this brief discussion it will be evident that there are two general ideas of subtraction: (1) taking away, and (2) telling what must be added to. This is seen in the case of $7-4$, in which we may think of taking away 4 cents from 7 cents, for example; or in which we may think of what must be added to 4 to make 7. The results are the same in the two cases; therefore the only practical question involved is as to which can be taught and carried out the more quickly. It is, of course, desirable to use both ideas, but when it comes to the actual finding of the result, the addition plan meets the approval of a good many teachers.

This method is not perhaps so easily explained as some of the others, but it is believed by many that it is more efficient for actual use. In applying this method to the subtraction of 37 from 65 for example, the pupil thinks

"7 and 8 are 15,"

writing the 8 under units. He then thinks

"4 and 2 are 6,"

writing the 2 under tens.

$$\begin{array}{r} 65 \\ 37 \\ \hline 28 \end{array}$$

It will be seen that this method does not require that any special subtraction table be learned, since all the subtraction facts come from the addition facts. It will also be seen that instead of subtracting the 3 (tens) from 5, we add the 1 (from the 15) to the 3 (tens), which is slightly easier than to subtract 1 from the 6, because the addition habit is so strongly fixed.

One of the most widely used of the other methods of subtraction treats the case of $65-37$ as follows: $5-7$ is impossible; taking 1 ten from the 6 tens and adding it to 5, $15-7=8$ (write 8); and $5-3=2$ (write 2). This method is more easily explained than the "addition" or "making-change" method, and is used by many people; but the explanation is not so important as the doing of the work.

As already stated, however, the pupil forms his habit in subtraction while he is in Grades I and II, and it is not desirable to attempt to change this habit in Grade III. In this article we shall proceed with the addition method, but it is a simple matter for teachers to change to any other one that the schools may prefer.

THE SUCCESSIVE STEPS. In order of difficulty you will find it advantageous to develop the work at the board in somewhat the following order. It is not necessary to use the word "borrowing" in subtraction any more than it is to use the word "carrying" in addition. So long as the process is understood, it is a rather trivial matter whether or not these inherited terms are used in explaining the process.

Since the pupils are not expected to attempt to explain the process, the teacher can get along very well without using

any words to explain the "borrowing" and "carrying" processes other than "take" and "add."

FIRST STEP: (increasing each number by 10, 100, or 1000)

80	70	90	960	906	8880	8808	8088
78	63	75	751	751	1342	1342	1342

In the case of 80−78 we may add 10 to each number, letting 80 become 80+10, and letting 78 become 80+8. We can see this better if we write it on the board as here shown. The pupil then says, "8 and *2* are 10," writing the 2 underneath. This is done only in explaining the process, not in actual work.

$$\begin{array}{r} 80+10 \\ 80+\ 8 \\ \hline \quad\ 2 \end{array}$$

In the case of 90−75 the pupil thinks "5 and *5* are 10," writing the 5 underneath; "8 (that is 1+7) and *1* are 9," writing the 1 underneath.

$$\begin{array}{r} 90 \\ 75 \\ \hline 15 \end{array}$$

SECOND STEP: (two increases)

1060	1060	1060	3070	5090	50,909
236	827	942	942	749	7,421

In this case you should observe that the "borrowing" difficulty enters gradually. The reasoning plays no part in the process, although it is usually desirable to show that a reason exists, but without running the danger of over-explaining or of confusing the children with unnecessary theory. For your own information the following computation shows the reasons involved:

Given	*Increase Each by* 10
1090	1090+10
236	240+ 6
	820+ 4=824

In the case of 50,909−7,421 we have

Given	*Increase Each by* 100
50,909	50,900+109
7,421	7,500+ 21
	43,400+ 88=43,488

THIRD STEP: (continuous "borrowing")

100	100	2000	30,000
9	27	176	2,763
91	73	1824	27,239

A case like $2000 - 176$ may be explained, if desired, by writing the work as follows:

Given		*Separated*	*Adding* 100 *and* 10 *to Each*
2000	=	1000+900+90+10	1000+1000+100+10
176	=	100+70+ 6	200+ 80+ 6
		1000+800+20+ 4	1000+ 800+ 20+ 4

It is not necessary, however, to give this explanation to a class. It would usually merely confuse the pupils. It shows to the teacher, however, the reasons involved.

The above illustrations involved subtraction from 9 or 10, these being the easiest. The next step will naturally consider the group ending in 8.

FOURTH STEP: (the group ending in 8)

There should first be the miscellaneous drill represented in the following cases:

8	8	8	8	8	8	8	8	8	18
3	5	1	4	2	7	6	8	0	9

It should then be extended so as to include (1) no "borrowing," (2) one "borrowing," (3) two "borrowings," (4) continuous "borrowing." Two illustrations of each of these steps are given below:

8888	8888	8880	9890	40,990	49,090	9000	9008
2756	2070	123	3428	5,436	12,345	127	129

FIFTH STEP: (the general case)

It is, of course, unnecessary to speak of numbers ending in 7, in 6, and so on. If the teacher finds it necessary to take these in order, this can be done. As soon, however, as we can come to the general case in which any endings whatever can

be used, the more interesting the work will become for the children.

The following shows some of the types of oral drill followed by written drill that are adapted to the completion of the subtraction process in Grade III.

Oral Exercise

7	7	7	7	7	7	7	7	17	17
3	1	4	2	6	0	5	7	9	8

Written Exercise

7777	7899	1777	28,970	19,080
1426	2368	843	1,284	9,192

Oral Exercise

6	6	6	6	6	6	6	16	16	16
4	2	3	1	6	5	0	7	9	8

Written Exercise

6666	6666	6676	6676	98,870
4231	4266	4207	4289	9,876

Oral Exercise

5	5	5	5	5	5	15	15	15	15
5	2	3	1	4	0	6	8	9	7

Written Exercise

5555	5565	5665	8765	98,765
1234	2006	707	2468	29,009

The endings with 4, 3, 2, and 1 are treated in the same way. The ending 0 has already been discussed.

Terms Employed. As the pupil proceeds with his work in subtraction, let him become more familiar with forms like $21-6$, reading the sign as "minus." There is little value in the "baby talk" which leads to calling it "less," for the word "minus" is the one the child must eventually use and it is generally employed in business life.

The word "subtract" cannot easily be discarded, although in business life men usually say "deduct," "take out," "reduce by," or use some similar expression.

The word "difference" is not so often used as "balance" or "rest" in the practical world. At this time it is just as well to speak of all such answers as "results," not troubling children at present to remember the difference between "product" and "sum," or to recall the special name given to the result in subtraction.

Such expressions as "is greater than" and "is less than" should be introduced when they are naturally needed.

MULTIPLICATION

First Steps in Multiplication. The most important advance made by the pupils in Grade III is in multiplication. Even before they leave Grade II, they know how to add and subtract fairly well within the number space from 1 to 20, but they have but little knowledge of multiplication and have usually never done any work in division. Therefore, the work in multiplication is to a great extent new.

There are, including such zero combinations as 2×0 and 0×8, the same number of combinations of one-figure numbers in multiplication that there are in addition; that is, there are a hundred. These must be mastered in this year, besides which there are the tables of 11's and 12's which are commonly required, although of little practical use to most people.

The question therefore arises as to how these facts can best be acquired. In former years the pupils simply learned the multiplication table, sometimes even singing it so as the better to retain it in mind. Modern methods differ greatly from the older ones and may first be summarized as follows and then discussed at length:

1. The table should be developed by the child as a table, but, as shown later, not in the order formerly favored.
2. After being developed, it should be learned and recited.
3. The drill, however, should not be upon the table, as

such (that is in the precise order of 1×2, 2×2, 3×2, and so on) but should be a random drill, going rapidly from one part of the table to another.

THE TABLE OF TENS. First, as to the order of the table, it is best to begin with either 5's or 10's. The advantage of the latter is that it is already known to every child who knows how to count by 10's, as he must do in learning the meaning of 20, 30, 40, and so on. If this is taken as the starting point, the pupils should build up at the board ten columns of tens as follows:

									10
								10	10
							10	10	10
						10	10	10	10
					10	10	10	10	10
				10	10	10	10	10	10
			10	10	10	10	10	10	10
		10	10	10	10	10	10	10	10
	10	10	10	10	10	10	10	10	10
10	10	10	10	10	10	10	10	10	10
10	20	30	40	50	60	70	80	90	100

Here the pupils all take part in building the table, the teacher writing the numbers as the children follow her suggestions. When it is finished they see that one 10 is 10, two tens are 20, and so on, and they can count by 10's thus: 10, 20, 30, 40, and so on to 100. They should then write out the results like this:

$1\times10=10$ $6\times10=60$
$2\times10=20$ $7\times10=70$
$3\times10=30$ $8\times10=80$
$4\times10=40$ $9\times10=90$
$5\times10=50$ $10\times10=100$

They may extend this to include 11×10 and 12×10 if desired, but for ordinary purposes of computation this is not necessary.

The children may read 3×10, either as "3 tens" or as

"3 times 10," the former being the shorter, and therefore being preferred by many teachers. As the pupils advance, however, they will find that the use of the word "times" is convenient.

In writing the table of 10's, it is much better to write it in the order above given than in the reverse order; that is, as $10\times1=10$, $10\times2=20$, and so on, thus following the natural order of counting—"1 ten," "2 tens, or 20," and so on.

While the above form of the table is a convenient one, for rapid drill it is better to write the work on the board or on flash cards in random order as follows:

10	10	10	10	10	10	10	10	10	10
2	5	3	7	9	1	8	4	6	10

The form 2×10 should be used only in printing, where it saves space. Children should know its meaning, but they should see chiefly, on the board, the arrangement that they will actually use in computation.

The zero combinations 0×10 and 10×0 should also be learned, and this should be done with all the other tables. Children are very likely to make the mistake of thinking that $10\times0=10$ unless they are properly drilled upon these combinations.

By studying such an arrangement as this they should see that there are 2 rows of 3 dots, or 2 threes, which is 6; also that there are 3 columns of 2 dots, or 3 twos, which is the same 6 dots. They should therefore see that $2\times3=3\times2$, and that we can always turn any multiplication around like this.

Therefore, in the table of 10's, they should be able to give the results of 10×3 and 10×7 as soon as they learn 3×10 and 7×10. The drill work on the 10's should therefore include all the inverses.

This work should, as in all such cases, be applied practically. This can also be done with respect to purchases within the knowledge of the children. Things that cost 2 dimes cost

2×10 cents, or 20 cents; things that cost 3 dimes cost 3×10 cents, or 30 cents, and so on; and if grapefruit cost 10 cents each, we must pay 5×10 cents, or 50 cents, for five.

As in the case of all the tables of multiplication, when the table of tens is completed and there has been a sufficient amount of drill and application, the inverse process (that is, division) should be introduced. Make twenty large dots on the board, arranged as shown in arrangement (1). If we divide them into 10 equal parts as shown in arrangement (2), there are 2 in each part. That is, $20 \div 10$ is 2, which we write thus: $20 \div 10 = 2$. If we divide the dots into 2 equal parts, as shown in arrangement (3), there are 10 in each part. That is $20 \div 2 = 10$.

(1) (2) (3)

Now go back to the triangular arrangement and have the triangle on the board. Ask the pupils how many 10's are used in making 20, 30, 40, and so on. Then ask them to write and complete the following table:

			10
		10	10
	10	10	10
10	10	10	10
10	20	30	40

$$10 \div 10 = 1$$
$$20 \div 10 = 2$$
$$30 \div 10 = 3$$

and so on to $100 \div 10 = 10$. Then write

$$10 \div 1 = 10$$
$$20 \div 2 = 10$$
$$30 \div 3 = 10$$

and so on to $100 \div 10 = 10$.

As in all such cases, there should be many applications of the work, such as the textbooks in the hands of the pupils will furnish. In oral work there should be such questions as these:

How many dimes make 20 cents? 30 cents? 60 cents? 80 cents? 90 cents? 100 cents, or $1?

If there are 10 fruit cans in each row, how many rows are there when there are 40 cans? 20 cans? 50 cans?

THE TABLE OF FIVES. As already stated, the tables may naturally begin either with the 10's or the 5's. These are seen in children's games and are used when making 5-cent purchases. Besides these uses there is always an interest in the rhythmic ending of 5 and 0, as seen in counting by 5's, thus: 5, 10, *15*, 20, and so on.

In developing the tables, the triangular arrangement already mentioned is the most efficient device we have. The child sees he is simply learning a short way of counting. He first builds up the triangle like this:

					5
				5	5
			5	5	5
		5	5	5	5
	5	5	5	5	5
5	5	5	5	5	5
5	10	15	20	25	30

He then writes out his own table as follows:

$1\times5=5$	$6\times5=30$
$2\times5=10$	$7\times5=35$
$3\times5=15$	$8\times5=40$
$4\times5=20$	$9\times5=45$
$5\times5=25$	$10\times5=50$

Besides this he writes $5\times0=0$, $0\times5=0$, and, if required by the school, $5\times11=55$, and $5\times12=60$.

Drill the children on the combinations taken at random, including all inverses, as follows:

5	5	3	7	5	8	6	5	0	5	10
1	2	5	5	8	5	5	3	5	9	5

5	1	2	5	9	5	5	5	5	4	5
7	5	5	0	5	4	5	6	5	5	10

TROUBLESOME COMBINATIONS. Certain combinations in both multiplication and division are usually found to be more difficult than others. Children have relatively little

trouble in multiplying or dividing when either number is less than 6. For example, they usually remember that $3\times8=24$ better than that $7\times8=56$, and that $18\div3=6$ better than that $63\div9=7$. This is not the case with all children, but most of them find certain combinations more difficult than others. The way of helping them may be illustrated by a single exercise[1] in multiplication as follows:

1. By what number, except 1, do you find it easiest to multiply? Give five examples of multiplying by it.

2. By what number of one figure do you find it hardest to multiply? Give five examples of multiplying by that number.

3. Which two numbers of one figure each do you find it hardest to multiply together?

Multiply:

4.	5	9	7	6	9	8	5	3	8	6
	7	8	6	7	6	6	6	8	9	8
5.	8	5	4	5	7	5	3	6	3	8
	7	8	8	4	9	3	7	8	9	5
6.	9	4	6	9	4	9	8	9	6	4
	9	9	6	3	6	7	8	6	8	7
7.	7	3	6	7	9	7	8	9	6	5
	8	9	9	5	5	7	4	4	5	9

8. Most boys and girls in the third grade find the numbers given above the hardest to multiply. In some schools they practice until they can give all the results correctly in 1 minute. Keep your score, and practice these multiplications until you can do this.

When the child has made his discoveries and written his results, the rest of the work of learning the multiplication facts should be in the form of random drill, which brings in simple problems, and the carrying drills (such as $5\times2+3=13$) so necessary for later work in the multiplication of large numbers. Additional variety to the drill may be given by the

[1] From the work mentioned on page 345, by the permission of the publishers.

use of the cards described on page 335 or (best of all) by separating the class into two groups. Each group stands, and the leader of each gives in turn a combination, say 5×9, to a member of the other group. As soon as anyone fails to give the right answer at once, he takes his seat. The work is kept up until all the pupils on one side or the other have been "multiplied down." The plan may be varied by having the teacher give the combinations, picking up flash cards at random so as to avoid any appearance of favoring either group.

The suggestions made with respect to the table of 10's apply also to the table of 5's and all other tables. They may be summarized as follows:

1. Teach the reverse order in each case; that is, let the statement $2\times5=10$ lead to the statement $5\times2=10$, let 3×5 lead to 5×3, and so on.

2. Use the random drill with respect to each table so that pupils shall not depend upon counting up in the table in order to find 7×5.

3. In written drill work use such forms as

$$\begin{array}{cccccccccc} 5 & 6 & 5 & 3 & 5 & 7 & 5 & 9 & 5 & 10 \\ \underline{4} & \underline{5} & \underline{1} & \underline{5} & \underline{5} & \underline{5} & \underline{2} & \underline{5} & \underline{8} & \underline{5} \end{array}$$

but not, in general, such forms as

$$2\times5 \quad 5\times3 \quad 6\times5 \quad 5\times7 \quad 8\times5$$

the column arrangement being the one we actually need in practical work in multiplying.

4. Carry the division along with the multiplication; that is, let $2\times5=10$ lead to the two forms $10\div2=5$ and $10\div5=2$. The division table should also be written out in the same way as the multiplication table.

5. Give many easy illustrations of the use of the table of 5's. These are generally furnished by the textbook but it is always desirable to use other problems relating to the particular school. As an introduction to the subject, showing the need for a knowledge of the table of 5's, the following may be used.

AT THE FRUIT STAND

1. Fred buys 2 oranges at this fruit stand. How much do they cost him? How do you know?

2. How much is 5+5? How much is two 5's.

3. Fred buys 3 bananas. How much do they cost him? How do you know?

4. How much is 5+5+5? How much is three 5's. How much is 3 times 5¢?

5. Fred finds that two 5's is the same as 5+5, and that three 5's is the same as 5+5+5. How much is two 5's? How much is three 5's?

6. We write two 5's like this: 2×5. How may we write three 5's? We may read 2×5 as either "two 5's" or "2 times 5." How do you read 3×5?

7. How do you read 3×5 apples? 3×5 peaches? 3×5 bananas? 3×5¢?

ORDER OF THE TABLES. After the tables of 10's and 5's the order of difficulty is usually thought to be something like this: 2's, 4's, 3's, 6's, 7's, 8's, 9's. If the 11's and 12's are taught, they follow the list here given. Some teachers assert with much reason that the table of 9's should follow that of 2's. The reason is that 9×7, for example, is 10×7−7, or 63, and similarly for the products of the other numbers by 9.

The tables should be developed on the triangular arrangement already described with respect to 10's and 5's, and

therefore the details need not be discussed at this time.

Application to Multiplication of Numbers in General. As soon as the facts in two of the tables are learned it is advisable to take up the multiplication of numbers of two and three figures. For example, as soon as the tables of 2's and 5's are known, together with their reverses (that is, both 3×2 and 2×3) and the carrying drill (as in $3\times5+2$), take up such cases as the following:

22	52	52	222	250	302
3	2	6	4	6	5

After this has been done with a considerable number of cases in which no table except those of 2 and 5 (with their reverses) are needed, take up the multiplication with two-figure multipliers, as in these cases:

23	263	360	408	637	444
11	25	52	25	52	55

Some teachers require a symbol of multiplication before the multiplier, as here shown. The purpose is to allow the pupils to see that they are to multiply instead of to add or subtract. Of course the direction "multiply" would serve the purpose, and the insertion of the symbol gives a wrong idea of business methods, but otherwise the plan is harmless. On the whole it has not enough to commend it to make it worth while using.

255
×25

The multiplication, like the addition and subtraction, of numbers should include dollars and cents, as in the following cases:

$1.22	$12.25	$25.52	$52.10	$48.75
6	8	78	92	22

It should also include cases in which zero enters into the multiplier, as follows:

225	522	252	$14.75	$2525	$22.52
10	20	102	20	102	750

The rest of the tables should lead to multiplication by two-figure numbers in the same general way as in the case of the tables of 5 and 2.

Among the applications under the respective tables the following are types which you may find helpful:

Twos. Buying postage stamps, apples, newspapers, pears, peaches, bananas, and cookies, all at 2 cents each; the number of children marching by 2's.

Threes. Feet in a yard; buying fruit at 3 cents apiece, and pencils at 3 cents each.

Fours. Quarts in a gallon; shoes for a horse; buying fruit at 4 cents apiece; weeks in February; panes of glass in certain windows; panels in certain doors in the schoolhouse.

Fives. Fingers on a hand (the thumb always being counted as a finger); buying fruit at 5 cents apiece; cents in a nickel.

Sixes. Cost of sugar, grapefruit, crackers, and other familiar foods.

Sevens. Days in a week; cost of foods.

Eights. Cost of milk, and other foods.

Nines. Cost of foods.

Tens. Cents in a dime; dimes in a dollar.

DIVISION

Importance of Division. By most of us the operation of division is used much less frequently than the other operations. We often need to find half of a number, which is done by division by two, and also to find a third, a fourth, or some other fractional part; but probably it will never be necessary for any of the pupils in a class to divide 421,871 by 527 or to perform any other division of this degree of difficulty unless they are in some very special and technical line of work, and in that case they will probably use a calculating machine that will do the work by the simple turning of a crank.

This being the case, the schools should consider carefully the present needs of the children and the probable type of work that they will be doing in the future.

So far as Grade III is concerned, the purpose is fairly clear. The children will probably need nothing at the present time beyond the simpler types of short division, chiefly for the purpose of finding fractional parts of numbers.

Combination with Multiplication. To accomplish this purpose it is economical to carry division along with multiplication. As soon as the pupil learns that $3\times10=30$, he should be drilled upon the following facts:

$$10\times 3=30,$$
$$30\div10= 3,$$
$$30\div 3=10.$$

He should then make out a table of division by tens as stated on page 380. This should also be done as each of the other multiplication tables is developed.

Of course it is possible to get along without these tables of division, just as we can get along without any tables of subtraction. For example, just as we know the fact that

$$7+5=12$$

leads us to see that $12-5=7$

and $12-7=5,$

so we see that the fact that

$$5\times7=35$$

leads us to see that $35\div7=5$

and $35\div5=7;$

but in spite of this it will be found that the table of division is very helpful.

Symbolism. Just as it is desirable to have the pupils visualize column work like

Addition	*Subtraction*	*Multiplication*
3	17	8
7	9	6
10	8	48

instead of such forms as $7+3=10$, $17-9=8$, and $6\times8=48$, which are convenient in printing but are not used in computation, so it is desirable to have them visualize the forms

which they will actually use in division instead of such a form as $15 \div 5 = 3$, which they will never see in any form of business computation.

Unfortunately the schools have tended to adopt a form of short division that is not used in business and that could not be conveniently employed even if the business world cared to do so. The tendency has been toward

$$5\overline{)15}\,3$$

whereas the business form is

$$5)15$$
$$\underline{\quad}$$
$$3$$

The reason why some of the schools place the result above the number divided is that this is done in long division. They argue that when we place the result beneath the number divided, we require the children to learn two forms, one for short division and one for long division, which is undesirable.

The answer to this argument is set forth fully in the department on Arithmetic in the Intermediate Grades, Volume VII, and need not be repeated here. If the teacher is not compelled by the course of study, by outside tests, or by other authority, she should follow the business practice and place the result below. We who write textbooks are often compelled to meet requirements which necessitate the use of forms which, as we state in the texts, we cannot sanction, because they are opposed to well-known business customs and needs.

Division with No Remainder. In following the above suggestions you will observe that the first steps in division, involving merely the reverse of the multiplication facts, relate to cases in which there is no remainder. The developing of division tables in connection with each part of the multiplication table has already been explained on page 386, in connection with the case of 10's. One other illustration may be given to show how to proceed. The questions on page 388 are suggestive of those which the teacher should ask:

1. In these columns how many 3's do you see in 6? 9? 12?
2. How many more 3's are there in 15 than in 12?
3. How many are 8×3? $24 \div 3$? 6×3? $18 \div 6$?
4. State the value of

4×3	$12 \div 3$	$12 \div 4$
5×3	$15 \div 3$	$15 \div 5$

				3
			3	3
		3	3	3
	3	3	3	3
3	3	3	3	3
3	6	9	12	15

5. If $\frac{1}{3}$ of 27, which is read "one third of 27," means $27 \div 3$, then $\frac{1}{3}$ of 27 is how much?
6. At 3¢ each, how many apples can you buy for 24¢?
7. At 3¢ each, how many pencils can you buy for 9¢? for 12¢? for 9¢+12¢? for 8¢+13¢?
8. Read and learn this table:

$3 \div 3 = 1$	$15 \div 3 = 5$	$27 \div 3 = 9$
$6 \div 3 = 2$	$18 \div 3 = 6$	$30 \div 3 = 10$
$9 \div 3 = 3$	$21 \div 3 = 7$	$33 \div 3 = 11$
$12 \div 3 = 4$	$24 \div 3 = 8$	$36 \div 3 = 12$

9. Also learn that $0 \div 3 = 0$.

The pupils should be familiar with the other methods of expressing division, as follows:

$$3\overline{)12} \qquad \begin{array}{r} 4 \\ 3\overline{)12} \end{array} \qquad \tfrac{1}{3} \text{ of } 12 = 4 \qquad \tfrac{12}{3} = 4$$

$$\begin{array}{r} 4 \\ \hline \end{array}$$

They should also see that the statement that $12 \div 3 = 4$ leads at once to the related statement that $12 \div 4 = 3$. There should, of course, be numerous applications such as finding the number of yards in 12 feet.

Troublesome Combinations. The subject of troublesome combinations in multiplication has already been considered on page 380. The same difficulty arises in connection with division. Children should be asked to state which combinations are the hardest, and upon these they should be

drilled until they are as familiar with them as with cases like $8 \div 2 = 4$.

DIVISION WITH A REMAINDER. As soon as the division tables have been developed and learned, division with remainders should be considered. The work should begin with such simple cases as the following:

Business Arrangement	*Many Schools*
2) 3	1, 1 remainder
1, 1 remainder	2) 3
2) 5	2, 1 remainder
2, 1 remainder	2) 5
Fractional Form	*Printed Form*
$\frac{3}{2} = 1$, 1 remainder	$3 \div 2 = 1$, 1 remainder
$\frac{5}{2} = 2$, 1 remainder	$5 \div 2 = 2$, 1 remainder

Show the pupils that when dividing by 2 the remainder, if any, must be less than 2; that is, it must be 1. When dividing by 3 the remainder is less than 3; that is, it is 1 or 2; and so on for other divisors.

SHORT DIVISION. The development of the division tables should be interspersed with cases of short division in which the tables can be applied. For example, after learning the table of 2, continue the work in division on the following plan:

(1) Division without a remainder.

$$2)\overline{46} \quad 23 \qquad \text{or} \qquad \overline{23} \quad 2)\overline{46}$$

$$2)\overline{468} \quad 234 \qquad \text{or} \qquad \overline{234} \quad 2)\overline{468}$$

(2) Division with a remainder, but with no carrying of inexact division during the process.

2)47		23, 1 remainder
23, 1 remainder	or	2)47
2)469		234, 1 remainder
234, 1 remainder	or	2)469

(3) Division involving carrying.

$$2\overline{)478} \quad \text{or} \quad \begin{array}{r} 239 \\ 2\overline{)478} \end{array}$$

This third case may be developed as follows:

$$2\overline{)478} \text{ is the same as } 2\overline{)400+60+18}$$
$$200+30+9$$

The pupils should not be asked to explain this operation, except as it may be discussed at the board; but they should think somewhat as follows:

"$4 \div 2 = 2$; $7 \div 2 = 3$, and 1 remainder; $18 \div 2 = 9$; the result is 239."

Check on Division. The pupils can check their work in division by multiplying the result by the divisor. For example

$$478 \div 2 = 239$$

and the result is correct because

$$2 \times 239 = 478.$$

Names Used. It is not necessary at present to learn such names as *dividend* and *quotient*, except as the teacher explains them informally. The word *divisor* is more important, and the meaning of the word *remainder* is clear without much explanation. "Number divided" will answer very well for *dividend*, and "result" will do for *quotient*. The distinction between "division" ($12¢ \div 4¢ = 3$) and "partition" ($\frac{1}{3}$ of $12¢ = 4¢$) is rather troublesome for most pupils in Grade III, but it may be given and explained informally if desired.

MEASURES

Measures of Value. The pupils learned the dollar sign and cent sign in Grade II and they review it early in Grade III. They should be told that the dollar sign is an S with two vertical marks across it, or as is now very common, with only one such mark. The cent sign is *c.*, *ct.*, or ¢. The children

have now come to a time for writing dollars and cents. The work may be taken up as follows:

In writing numbers that mean dollars and cents, we write

$2.35 for 2 dollars and 35 cents.
$5.05 for 5 dollars and 5 cents.

and

$0.75, $.75, or 75¢ for 75 cents.

The pupils should understand but not commit to memory the following statement:

First write the dollar sign ($), then the dollars, then the decimal point (period), and then the cents, being sure to use two figures to express the cents, that is $0.75 (75 cents) or $0.05 (5 cents).

Both $0.75 and $.75 are correct. When written by itself, $0.75 is the safer, for the decimal point in $.75 is easily overlooked. When written in a column, there is no need for the zero except at the top.

In addition and subtraction when the numbers are written in columns, the dollar sign is placed only before the top number and the result.

The drill upon reading and writing dollars and cents should include such work as the following:

Read:

1.	$0.69	3.	$29.65	5.	$142.00	7.	$719.08
2.	74¢	4.	$31.00	6.	$319.86	8.	$848.95

Write in figures with the proper signs for money:

9.	5 dollars.	11.	1 dollar and 50 cents.
10.	36 dollars.	12.	35 dollars and 9 cents.

The operations involving dollars and cents are sufficiently explained in any good textbook. The explanations to the children should always be very simple. Remember that the ability to do the work is the great thing at this time—not the ability to memorize theories. The following may, for

example, be worked out at the board with the class, but thereafter the pupils should have plenty of drill with no explanations:

Anna saved $2.75 in January, $3.10 in February, $2.85 in March, and $0.75 the first week in April. How much did she save in all?

$ 2.75
3.10
2.85
.75
2 1
$ 9.45

First, $5¢+5¢+5¢=15¢$.

Write 5 under cents and add 1 to dimes.

Writing the number carried, as here shown, makes it easier to check the work.

Then $1+7+8+1+7=24$, the dimes.

Write 4 under dimes and add 2 to dollars.

Then $2+2+3+2=9$, the dollars.

Write 9, followed by the decimal point, under dollars.

The result is $9.45; that is, Anna saved $9.45.

In subtraction, the following illustrates the "addition method" or "making-change method," but it should not be imposed upon pupils who have learned any other good method and can subtract readily and accurately:

Charles was given $7.50 with which to buy some meat and groceries. After paying $3.16 for the meat, how much did he have left?

$7.50
3.16
$4.34

First, $6+4=10$.

Write 4 under cents.

Then $2+3=5$.

Write 3 under dimes.

Then $3+4=7$.

Write 4 under dollars.

Place the decimal point after the dollars.

The result is $4.34; that is, Charles had $4.34 left.

Check. Add $3.16 and $4.34 as they stand.

If the work is right, the result is the top number, $7.50.

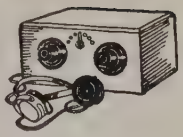
In the work in multiplication and division, follow the general plan of the textbook that you are using.

As an illustration of the type of problems that may properly be used in connection with the work involving money, the lesson on page 393 is inserted:

AT THE TOY STORE[1]

Building Set, $6.70

Airplane, $3.25

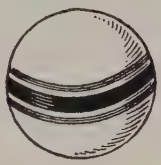


Small Radio, $6.25

1. How much must you pay for a ball and a radio?

Find the cost of buying these toys:

2. A building set and a radio.
3. A train, a building set, and a doll.
4. An airplane, a ball, and a radio.
5. A doll, an airplane, and a train.
6. Two airplanes, a doll, and three building sets.
7. A doll, an airplane, and a radio.
8. A ball, a train, and a building set.
9. Three dolls, two trains, and a ball.
10. Two building sets and two radios.
11. Two trains and two building sets.
12. Three radios and three airplanes.
13. If you had $20 to spend, what toys would you buy and how much would be left?



Large Ball, 75c

Talk-and-Walk Doll, $5.75

Electric Train, $9.75

MEASURE OF LENGTH. In this grade the pupils learn the common measures used in the daily life of the home and the store. This should be done with the actual measures in their hands. They should measure the length and width of the schoolroom, using first the yard and then the foot as units

[1]From the Smith-Burdge *Primary Arithmetic*, with the permission of the publishers, Ginn and Company.

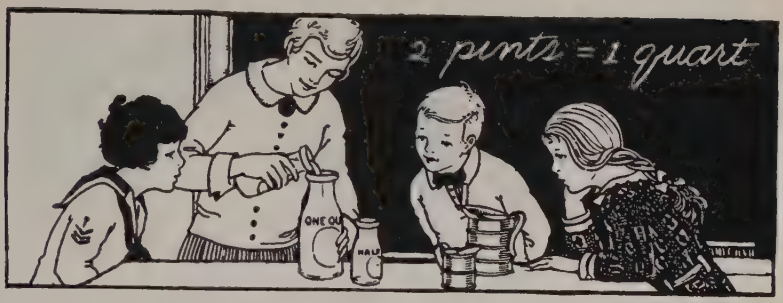
of measure. At first let them measure to the nearest yard, with a yard stick. After they have done this let them measure to the nearest foot with a foot rule. Then let them measure by feet and inches. In this way they come to know the meaning of these measures to a degree that is impossible merely from learning a table of length.

It is coming to be the custom in large schools to keep a record of the heights and weights of the pupils, as shown in Ex. 4, page 397. It is always an interesting exercise to apply the table of length to this purpose. Where sewing is taught in the primary grades an effort should be made to correlate the measurements for their garments with the work in arithmetic.

Square Measure. Although the child in Grade III has little use for finding areas, he should, for purposes of general information, learn the meaning of the square inch and the square foot. Each of these units should be drawn upon the board, and the area of a rectangle should be found. This work involves the table of square measure, including the square inch, square foot, and square yard. This work should be applied to measuring the dimensions and area of the floor, the desk top, and the page of the book, and possibly of the playground.

Liquid Measure. The pint, quart, and gallon are studied in this grade. The work will not seem very real unless the actual measures are at hand so that the child can see and use them. In cities the quart and pint milk bottles should be used in preference to tin measures, they being the more familiar to the pupils. No picture of the pint or quart measure is of value unless it is represented in connection with a picture of persons, so that its relative size will appear clearly to the pupils, and the same is true of other measures.

The half pint should also be taught on account of its use in cities where cream is sold in bottles of this size. Such oral problems as those on the following page, which are within the range of the children's interests and knowledge, are typical of the kind of work to be given in Grade III:



1. How do we usually measure milk?

2. Tell which is the half-pint bottle in the picture.[1] Which is the pint bottle? Which is the quart bottle?

3. How many half pints of milk must you pour into the pint bottle to fill it? How many pints of milk must you pour into the quart bottle to fill it?

4. We often write *qt.* for quart or quarts, and *pt.* for pint or pints. What part of 1 qt. is 1 pt.?

5. We write *gal.* for gallon. What part of a gal. is 1 qt.?

6. Name two liquids that are sold by the quart and one that is sold by the pint or half pint?

7. Where you live, what is the cost of a quart of milk? of a pint of milk? of a half pint of cream?

8. If I have a quart of milk and a pint of milk, how many pints of milk do I have in all?

9. What special name is given to the half quart? to 4 qt.? to a quarter of a gallon?

Dry Measure. The pint, quart, peck, and bushel, dry measure, are studied in this grade. Children should know that they are not used in measuring liquids, like milk or molasses, but in measuring non-liquid foods like grain, berries, and potatoes. At present there is a tendency to sell such things by the pound. Even milk is usually sold at creameries by the pound, and potatoes are sold in cities in

[1] This picture, illustrating the half pint, pint, and quart, is reproduced from the Smith-Burdge *Primary Arithmetic*, with the permission of the publishers.

the same way. The dry quart is not precisely the same as the liquid quart.

A box 1 ft. high, 1 ft. wide, and 1 ft. 3 in. long contains a bushel.

It is desirable to have the actual measures in the schoolroom. If this is not convenient, they may be pictured as here shown, always in such manner that their relative sizes will be understood.[1]

The following oral problems show the type of the work that should be used in introducing the subject:

1. Name something that is sold by the bushel.
2. Name something that is sold by the peck.
3. Name the three measures which the pupils in the picture are using.
4. If you were a farmer selling milk, would you sell it by the bushel, the peck, the pound, or the gallon? Why would you do so?
5. What special name is given to half of a quart?
6. What special name is given to an eighth of a peck? to 4 pk.?
7. If you buy $\frac{1}{2}$ bu. of potatoes, how many pecks of potatoes do you buy?
8. Last fall Ben and I picked 6 bu. of big red apples in our orchard. How many pecks did we pick?

[1] This illustration is, by permission, taken from the Smith-Burdge *Primary Arithmetic.*

MEASURES OF WEIGHT. In this grade the table of weight usually includes only ounces and pounds. For the children, the pound is much more important at this time than the ounce. The latter, however, is mentioned frequently enough in the home to make it desirable to include it in this year's offering.

If there is a set of scales and weights in the schoolroom, have the children make, if convenient, little bags each holding 1 oz. of sand. It will add to the child's knowledge of weights if he can weigh these bags and show on the scales that 16 oz. = 1 lb. It is also helpful to have bags weighing 2 oz., 3 oz., and so on up to 8 oz., and to have a pupil with eyes closed determine which is the 2 oz. weight, or 3 oz. weight, when it is placed in his hand. The following oral work is typical of that which the teacher will find it profitable to use with the class:

1. If you put a pound weight on one side of the scales, how many ounce weights must you put on the other side to balance the pound weight?

2. How many ounces make a pound? Then 1 ounce is what part of a pound? Can any of you bring to school some scales for our store?

3. We can use sand for sugar when we play store. If we buy $\frac{1}{2}$ lb. of sugar, how many ounces of sugar do we buy?

4. A book on health gives these heights and weights for children from seven to nine years of age:

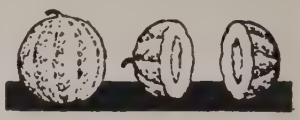
AGE IN YEARS	HEIGHT		WEIGHT	
	Boys	Girls	Boys	Girls
7	44 in.	44 in.	48 lb.	47 lb.
8	46 in.	46 in.	52 lb.	50 lb.
9	50 in.	49 in.	57 lb.	55 lb.

Compare your height and weight with this table, stating what differences you find for your age. Do you weigh too much? Do you weigh too little?

FRACTIONS

Fractions never mean anything to a child unless they are taught in connection with objects of some kind. The following suggestions with respect to half of an object will help you in reviewing this work of Grade II:

1. One of these melons[1] has been cut into two equal parts. Each of these equal parts is called *one half* of the melon. The melon has how many halves? (Point to them.)



2. We write one half like this: $\frac{1}{2}$. How do you read $\frac{1}{2}$ in.? $\frac{1}{2}$ ft.? $\frac{1}{2}$ yd.?

3. Draw on paper a line 1 in. long and divide it into two equal parts. How long is each part?

4. Draw a line 2 in. long and mark off $\frac{1}{2}$ of it.

5. Here is a circle and $\frac{1}{2}$ of a circle. We write one and a half like this: $1\frac{1}{2}$. Draw a line $1\frac{1}{2}$ in. long.

6. Draw a line $2\frac{1}{2}$ in. long; a line $3\frac{1}{2}$ in. long.

7. We write two halves like this: $\frac{2}{2}$. Draw on paper a line $\frac{2}{2}$ in. long. How many inches long is it?

8. Draw on the board a line $\frac{1}{2}$ yd. long.

9. Draw a line $\frac{1}{2}$ ft. long. How many inches long is it?

10. How many halves of an inch has 1 in.?

11. How many halves of an inch in 2 in.? in 3 in.?

12. Measure the length of the blackboard and place a point half way from one end to the other.

13. Find by measuring which desk in the schoolroom is half way from the front wall to the back one.

14. With a ruler draw on the board a line 1 yd. long. Then find how many inches there are in 1 yd.

15. From the measure made in Ex. 14, find the number of inches in $\frac{1}{2}$ yd.

16. If you have a piece of cloth that is 16 in. long, have you $\frac{1}{2}$ yd.? If not, how much more or less do you have?

[1] The illustrations on pages 398-402 are reproduced by permission of the publishers, Ginn and Company, from Smith-Burdge *Primary Arithmetic*.

To the child the half of a group is quite different from his idea of half of an object. The following treatment will be found helpful:

1. How many chickens has the mother hen in this picture? If we take away $\frac{1}{2}$ of them, we take away how many chickens? How many are left?

2. Half of these 6 pansies are how many pansies?

3. Half of 6¢ are how many cents? Half of 6 children are how many children? Half of $6 are how many dollars?

4. Half of these 10 stars are how many stars? Half of $10 are how many dollars?

★ ★ ★ ★ ★
★ ★ ★ ★ ★

5. Half of these 8 marks are how many marks? Half of 8 children are how many children? Half of $8 are how many dollars?

|||| ||||

To the child the idea of "half as large" is still different from that of half of an object or half of a group. The teacher should draw a line 12 in. long on the board and then ask the pupils to draw one that is half as long, to measure this line, and to tell how many inches there are in $\frac{1}{2}$ of 12 in. During the arithmetic period there should be plenty of such seat-and-board work as the following:

Draw on the board a rectangle that is 1 ft. long and half as wide.

A rectangle which is 8 in. wide is half as wide as it is long. Draw the rectangle on the board.

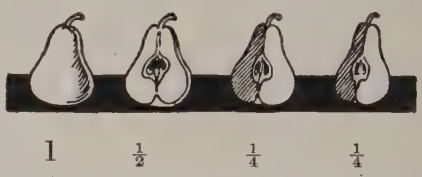
John is 3 ft. tall. He is just half as tall as his father. How tall is his father?

The work on the fraction one-half is a review of that which the children may have done in Grade II, but which they have largely forgotten. The next fraction, one-fourth, should be taken up in the same spirit. The following work will show how the idea of one-fourth of an object may be presented:

Draw on the board a picture of a stick, dividing it into fourths somewhat like the one here shown:

Ask the class if anyone can tell what each of the four equal parts of the stick is called. Show that there are four quarters in anything, such as the stick, and that *quarter* and *fourth* mean the same thing.

Write $\frac{1}{4}$ on the board and ask the children what it means. Ask them to read $\frac{1}{4}$ in.; $\frac{1}{4}$ ft.; $\frac{1}{4}$ yd.; $\frac{1}{4}$ of \$1.



Cut some object into halves and fourths. For example, two pears are here shown. One has been cut into halves, and one of these halves into two smaller but equal parts. Which is $\frac{1}{4}$ of the pear? Which is $\frac{1}{2}$ of it? Which is the larger, $\frac{1}{2}$ or $\frac{1}{4}$? How many fourths of the pear are equal to $\frac{1}{2}$ of the pear? to the whole pear?

Point to two parts that make three-fourths of the pear. How do you read $\frac{3}{4}$? Write three-fourths on the board, and draw a line $\frac{3}{4}$ in. long. Write $1\frac{1}{4}$ on the board and then read it.

One-fourth of a group of objects should now be taken up in the same way as in the case of half of a group; that is, there should be, for example, four blocks and the pupils should be asked to point to one-fourth of them, and then to three-fourths of them. They should then show that two-fourths of the blocks is the same as one-half of the blocks.

Let each child fold a sheet of paper into two equal parts and then fold it again into two equal parts of each half. Ask what this shows about halves and fourths.

They should then take 8 objects and find one-fourth, one-half, and three-fourths of them, showing that $\frac{4}{8}$ = one-half. The work should then extend to the consideration of the number of cents in a quarter of a dollar, the number of "quarters" in a half dollar, and so on.

The third is taken up in the same way, but by this time the pupils will have a fair idea of the fraction, and hence the work will proceed more rapidly. The following are a few suggestions as to one-third of an object, a length, or a group:

1. The pie here shown has been divided into how many equal parts?

2. Each of these equal parts is called what part of the pie?

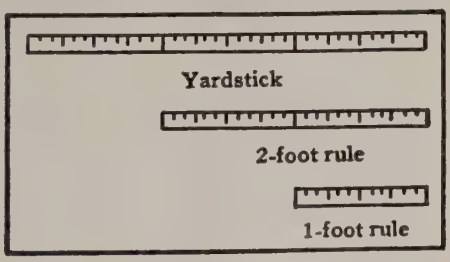
3. This circle is cut into three equal parts. Each is what part of the circle?

4. What is one of the three equal parts of anything called? What do we mean when we speak of $\frac{1}{3}$ of a circle?

5. What is meant by $\frac{1}{3}$ of a line? by $\frac{1}{3}$ of a dozen?

6. Draw a line 6 in. long and mark off $\frac{1}{3}$ of it.

As already stated, the study of fractions should be very closely connected with the study of measures, since it is here that we make the most use of the fraction. Such work as the following is very valuable: How many inches are there in a foot? in $\frac{1}{2}$ of a foot? in $\frac{1}{3}$ of a foot? in $\frac{1}{4}$ of a foot?



Which of the rules in this picture is $\frac{1}{3}$ as long as the yardstick?

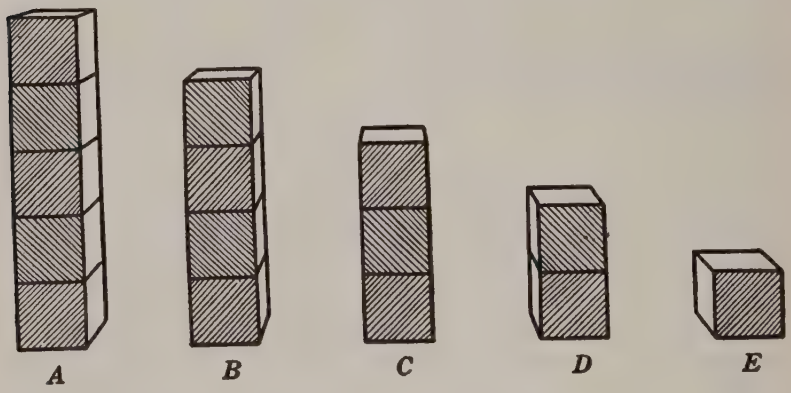
Which of the rules in the picture is $\frac{2}{3}$ as long as the yardstick?

The 1-foot rule is what part as long as the yardstick?

How many feet are there in $\frac{1}{3}$ of a yard? in $\frac{2}{3}$ of a yard? in $\frac{3}{3}$ of a yard?

Most people make little use of fractions other than halves, thirds, and fourths. A few other fractions are, however, rather commonly used, and in any case it is necessary to carry the idea of fractions beyond fourths. It is no longer necessary, however, to develop the work for the other fractions as completely as has been suggested above. A single case, in connection with fifths, will be sufficient for Grade III, as follows:

1. In the piles of blocks shown below, pile E is what part as high as pile D?
2. Pile E is what part as high as pile C? as pile B? as pile A?
3. Pile D is what part as high as pile C? as pile B? as pile A?



4. Which pile is $\frac{3}{4}$ as high as pile B?
5. Which pile is $1\frac{1}{4}$ times as high as pile B?
6. How many blocks are there in $\frac{3}{5}$ of pile A? in $\frac{2}{3}$ of pile C?
7. Draw a line 5 in. long and then draw a line $\frac{1}{5}$ as long; a line $\frac{3}{5}$ as long; a line $\frac{4}{5}$ as long.
8. Draw a line $\frac{2}{5}$ as long as a 5-inch line.
9. Draw a line $\frac{4}{5}$ as long as a $2\frac{1}{2}$-inch line.
10. Make up problems about blocks and lines.

PROBLEMS DEVELOPING THOUGHT

It is impracticable in a work like this to suggest many types of problems. A few have been given but you will have to depend largely upon your textbook for the drill, the problems, and the arrangement of topics. It is proper, however, to close this discussion of primary number by suggesting the use of problems without numbers, such as will tend to develop the thought of the pupils. The following are types of oral questions suitable to this grade:

1. If you buy a certain number of pounds of something, how do you find the number of ounces?

2. If you buy a part of a yard how do you find the number of inches that you buy?

3. If you know the number of quarts of milk in a can, how can you find the number of pints?

4. If you know the number of feet in the length of a box, how do you find the number of inches?

5. From the number of square feet in the top of a desk, how do you find the number of square inches?

6. If you know the length and the width of a floor, how do you draw a plan of the floor to scale?

7. If you know a number, how do you find a quarter of the number?

8. If you know a quarter of any number, how do you find three quarters of the number?

CHAPTER SIX

NUMBER GAMES IN PRIMARY CLASSES

AS ALREADY stated, the modern spirit in the teaching of arithmetic requires that the child shall enjoy his life while working with numbers just as he does while indulging in any other activities. This means that he is not to be forced to attempt to be an adult in his thinking or in his tastes. He is living in his age of play and of habit formation, and the latter should correlate directly with the former; that is, through the spirit of play he should, so far as is reasonably possible, form his habits.

For example, drill is an activity that has for its purpose the reduction of certain mental operations to an automatic basis. It is one of the important phases in teaching primary number facts, but if it is to be made effective, it must be freed from some of its monotonous and uninteresting aspects. It must be made attractive, profitable, and varied, so that the process of the development of skill shall be inviting to the learner. No other device has been so successful as number games in meeting this need.

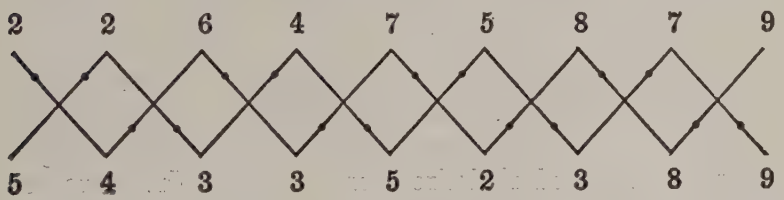
Every teacher recognizes this principle, but not all have recognized the equally important principle of keeping the play element within safe bounds. A teacher who makes the arithmetic work of the first years nothing but childish games will secure very poor results. On the other hand, one who never leads her class to play number games, but merely drills day after day on the abstract facts of arithmetic will have a rather stupid class to pass on to the next grade.

There are many number games[1] adapted to the early work in arithmetic, and a considerable amount of this sort of ma-

[1]The games given here are from the author's various works. The first three are, with the publisher's permission, chosen from those in the Smith-Burdge arithmetics (Ginn and Company). The list is extended by including certain new games in the *Teachers' Manual* to those arithmetics.

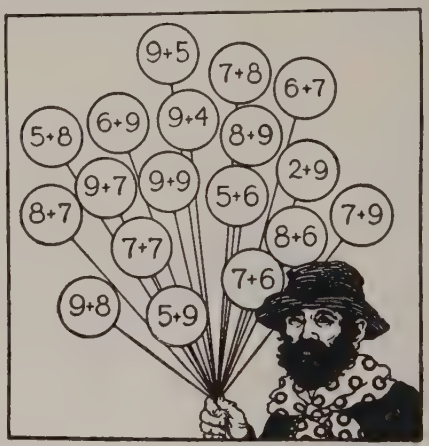
terial is suggested in various textbooks. So important, however, is this question of directed play that it is felt that the following brief list will be helpful in suggesting variations of familiar games or in supplementing those given in the text which the school may be using.

RINGTOSS. Here a ring tossed on the post counts 10; in the inside circle it counts 9; in the next circle, 8; and in the outside circle, 7. The adding of the scores gives excellent drill on some of the troublesome groups.



GAME OF THE CROSSED STICKS. Choose a pupil to point to the dots on the sticks. He will ask someone to give the answer by adding the numbers at the ends of the stick. First, begin at the left; then begin at the right; and then skip around.

THE GAME OF TOY BALLOONS. The teacher draws the balloons on the board. The pupils choose someone to point to each balloon and to see how many he can point to, giving the answers rapidly, without making a mistake.



BIRD CATCHER. Arrange the children in a circle, assigning a number to each. Let one child sit or stand at the center and ask for results within the numbers assigned. For example, "How many roses are 3 roses and 6 roses?" The child having the number 9 holds up his hand and announces the number. The teacher then says that this child has caught the bird.

SUM GUESSING. One of the pupils says, "I am thinking of two numbers. Their sum is 9. What are they?" The class guesses until the right numbers are given, after which someone else acts as leader. Instead of addition the other operations may be used.

HIDE AND SEEK. The teacher places on the blackboard statements like the following, with one number hidden:

$$3+\square=7, \qquad 5+\square=9, \qquad \square+4=8.$$

In making the full statement the pupils get a good deal of training in repetition of number forms.

BEAN BAG. This game can be played in school, during a rainy recess period if desired, or at home. The score requires addition.

It may also be amplified by letting each bag thrown into the circle count 2, each child having six bags. We may also let each bag thrown in count 3, and each one outside count 1 off. Other values may be given if desired.

THE HOOP GAME. The children may throw bean bags through a hanging hoop in which is a bell. Every bag that goes through without ringing the bell counts 10. If the bell rings, the throw counts only 2. For example, in ten throws each, the score of two pupils may be

0	0	2	10	0	0	2	2	0	10
10	0	0	0	0	2	0	0	10	2

What was the score of each? Which won the game?

A MARBLE GAME. The children may cut holes in the bottom of a cardboard box, like the one shown. They may number the largest, 1, the next, 3, the next, 5, the next, 7, and the smallest, 10. They may then put the box on the floor and drop marbles from the height of a table.

With 10 marbles each, the score of two pupils might be

1	1	3	1	0	10	7	5	0	1
0	5	0	1	1	1	1	7	7	10

What was the score of each?

ODD OR EVEN. This is an ancient game, and is played by two persons. Each takes a given number of marbles or peas, say 10. One child places his hands behind his back, arranges the objects to suit himself, and then stretches out his closed hand and says, "Odd or even?" The other guesses, and if he is correct he receives a marble; if incorrect he pays one, the other saying, "Give me one to make it odd," or "even," as the case may be. There is a similar game, played in some parts of the country, called "Hull Gull."

LEARNING FIGURES. The figures 0, 1, 2, and so on to 9 are cut from sandpaper so as to be felt easily by the fingers. The pupils close their eyes and tell the figure by the sense of touch.

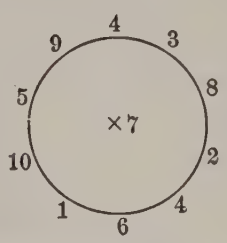
CLIMBING THE LADDER. The teacher draws a ladder on the blackboard, placing a number combination on each step. The pupil begins at the bottom and climbs as far as he is able.

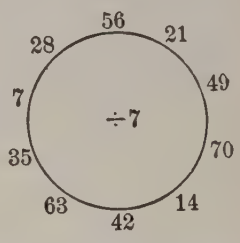
When he makes a mistake, or does not answer with reasonable promptness, he falls off and another takes his place. The successive combinations, when the addition table of 3's is being learned, might be

$$2+3,\ 3+2,\ 4+3,\ 3+5,\ 3+4,\ 5+3,\ 3+6.$$

Number Tugs. The class may be arranged in two equal groups for a tug of war, each group having a captain. The captains may give combinations to the other side, such as 2+3, 3+1, 3+3, and so on, the pupils being seated as they fail.

Circle Multiplication and Division. The operations of multiplication and division are carried on in the same way as addition and subtraction, the numbers being selected and arranged according to the progress of the class.

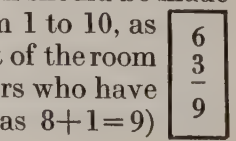




There are many other simple arrangements of this general nature that teachers easily invent for themselves, the numbers being arranged about a square, or in rectangles, or in some other simple fashion.

Buzz. The teacher gives a number, say 3, to the class, and then asks the children to count in turn, each child saying "Buzz" if he has any number of 3's. Thus, instead of saying "Six," or "Nine," the child would say "Buzz." The game is of value when learning to count by 3's as the basis for the multiplication table.

Number Concepts ("Card Matching"). Each pupil in the class is given one of a set of cards, which should be made up for the numbers and combinations from 1 to 10, as here shown. One pupil is called to the front of the room and shows his card to the class. All the others who have the same number in other forms (such as 8+1=9)



then step up and arrange themselves in a row beside him, holding their cards so as to face the class.

This game is of value in helping to develop the proper number concepts. The cards may be made in any convenient size, but care should be taken to have the words and figures large enough to be easily read.

SUBTRACTION GAME ("Who Will Help Me?"). After writing on the board 1 2 3 4 5 6 7 8 9, the teacher holds up a card showing a 2, or any other number upon which she wishes to drill, and asks "Who will help me make 6?" All the pupils who can tell instantly what number added to 2 makes 6, then stand up. The teacher selects one of the standing pupils, who goes to the board and points to the 4, saying, "I am 4; 2 and 4 are 6." In this way the class helps to make all the combinations formed by adding 2 to each of the numbers that were written on the board.

The game may be varied by having nine pupils, numbered from 1 to 9, form a circle with a leader in the center. The leader says, "I am 8; who will help me make 12?" The pupil whose number is 4 runs into the circle, saying, "I am 4; 8 and 4 are 12." The pupil in the center then says, "I am 8: who will help me make 15?" and so on until all have been called upon, never asking for help in making a larger number than 18. The group may then be changed and another number selected for the leader.

SUBTRACTION GAME. The teacher holds cards on which are printed the forty-five addition facts so that the class cannot see the numbers, and says, "I am looking at two numbers that make 8. One of the numbers is 5. What is the other number?" One of the pupils who raises his hand instantly should then be called upon to answer, and, if he gives the right number, he is given the card. The game is then continued with the remaining cards, and at the end the pupils stand in line according to the number of cards they have obtained.

REVIEW GAME ("Number Questions"). After the class is divided into two teams, each member of a team in turn

asks a pupil on the other side a simple question involving the use of numbers. If the child asked cannot answer, anyone from the other side may do so. One point is scored for each correct answer, and the side missing loses a point for each mistake or failure to answer.

For example, Tom might say to Jack, "Six boys want to play ball, but it takes nine to make a team. How many more boys must they get?" Louise might say to Helen, "I have five little rabbits. Three of them got out of the pen last night. How many are left?" The questions can be adapted to any of the fundamental processes.

Multiplication Game ("Number Racing"). The troublesome combinations in the multiplication tables are written without their products in a row across the board, and a line is drawn at the halfway point, as follows:

7	8	7	12	8	9	8		7	8	9	12	6	9	9
9	8	6	9	7	6	9		7	6	8	8	7	9	7

Two pupils are chosen for the race—one to begin at the right-hand end of the row and the other at the left-hand end. At a signal each begins to write down the products as neatly and rapidly as possible, the first to pass the center line winning the race.

The troublesome combinations in addition, subtraction, and division also may be drilled upon in this kind of game.

Review Game ("Mush Pot"). Have all the pupils form a circle around the teacher. The teacher then goes quickly around the circle, asking each pupil a question from a list of number facts upon which she wishes to drill. When the one called upon cannot answer quickly or gives the wrong answer, he must step inside the circle. If one inside the circle can answer any question that the one called upon fails to answer, the two children change places.

Addition and Subtraction Game ("Blind Man"). The children form a circle around the one who is to be the blind man. Each pupil in the game holds a card with a number not larger than 9 on it so that the numbers can be seen. The

blind man closes his eyes and touches someone. The child touched must give the sum of his number and the blind man's number, and the blind man must then tell the number of the one he touched. If he gives the right number, the one touched becomes blind man. For example, if the blind man's number is 8 and he touches number 7, the latter says "15," and the blind man answers "7."

ADDITION AND SUBTRACTION GAME ("Guessing"). The teacher writes upon the board the special addition facts that she is planning to drill upon; for example,

9	7	7	7	5	9	6	7
5	6	9	7	8	4	5	8

One pupil is selected to stand at the board with a pointer. Another pupil is called upon and stands, saying, "I am looking at two numbers that make 14 (or some other number). What are they?" The pupil with the pointer might point to 7 and 7. The pupil standing would then say, "Yes, 7 and 7 are 14; but I am looking at two other numbers that make 14." If the pupil at the board points to two numbers that do not make 14, or fails to point to all the combinations that make 14, the pupil asking the question takes his place at the board.

The same game may be played with subtraction facts.

ADDITION GAME ("Tit, Tat, Toe"). The pupils, in groups of two, draw intersecting lines on the board like those here shown. They then take turns in writing three numbers, none larger than 9, whose sum is a given number announced by the teacher. In this case it is 11. The pair that first completes the four sets of three numbers wins a point and the pair receiving the most points wins the game.

4	3	4
6	5	0
3	5	3
7	2	2

DOMINOS. There are several games played with dominos, all of them useful in fixing the number combinations in mind.

LOTTO. There are several games sold under this name. Sometimes numbers are printed on sections of a picture, these sections being fitted in by matching the numbers. The game is valuable when the numbers are being learned.

ADDITION RACE. Let the front pupil in each row write on the board a number less than 10. Meanwhile let the rest move forward one seat, the ones who wrote the numbers taking back seats. Let those now in front write numbers underneath, the rest moving forward as before. Let the next ones add the two. Then repeat the process. The row having the most "rights" wins.

HOPSCOTCH. A good outdoor game for children which furnishes splendid exercise. The size of the court on which it is played may vary with the amount of space available. It may be marked off on the ground or pavement, and in shape may be circular, square, or rectangular. The court is divided into sections which are numbered from 1 to 10 or 11. From a point a short distance outside the court, the player slides a small, flat stone along the ground or pavement into Section 1. He then hops in after it and either picks it up or kicks it out of the section—depending on how the game is being played —and hops out. The process is repeated with the second and succeeding sections, and to reach the stone in each case the player must hop through the preceding sections. If the stone is thrown on a line or into the wrong section it counts as an error. The player must also keep his balance and be careful not to step on a line, as transgressing either of these restrictions is an error. The winner is the one who first gets the object into the last section and hops through all the sections without making a mistake. This game is a good medium for arithmetic drill and helps to develop muscular control.

PEGGY, TRAPBALL, OR TIPCAT. The peggy is a piece of wood about four inches long and pointed at each end. One end is struck with a bat as it lies on the ground. This causes it to fly in the air, when the player hits it again. He then estimates the distance it goes in bat lengths, scoring one if he guesses within one length. The game is valuable in training the children to estimate distances.

MARBLES. The various games of marbles are too well known to need description.

MY INVENTORY

At the end of the year's work it is well to do what the merchant does at the end of his year—take an inventory. This is best done by sitting down and having a talk, each with himself or herself. These are some of the questions we might ask ourselves:

1. Am I satisfied with the year's work? Even though I am it has probably not been so good as I might have made it. If I am not satisfied, wherein can I improve upon it next year?

2. Have I made the best use I could of the textbook, omitting what was too advanced for the pupils and supplementing it where more work was needed?

3. Have I made the number work interesting to all my pupils, showing them that it is not only useful to them but that it can be played like a game?

4. Have I encouraged my pupils to work rapidly and to respect and achieve accuracy? Have I made each class period a sprightly one, or have many of these periods been mere drudgery, characterized by dull slothfulness that tended to make the children dislike number work?

5. Will parents and future employers of my pupils say that those whom I have taught cannot even add correctly, that they cannot subtract and be sure of the answers, that they cannot multiply with fair speed and with assured accuracy, and that division is almost unknown to them?

6. Have I led the children really to like their number work, connecting it with their games and their simple purchases?

7. Have I always presented the new, as in the case of short division, in such a way as to have it grow naturally out of what the children already know? Has the presentation always been by gradual steps, the children finding their way easily under my leadership?

8. Have I recognized the "individual differences" of my pupils, observing that some are naturally quick in learning while others are slow, and that some have a power of con-

centrating their thoughts while others lack this ability?

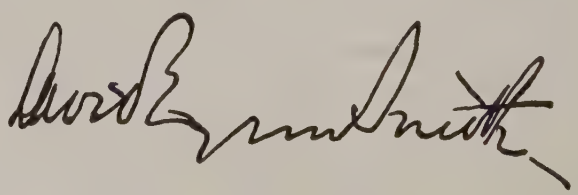
9. Have I always been neat in my own work on the board, thus setting a good example for those who look up to me as a kind of ideal and model? Have I spoken words of approval to those whose work is neat as well as accurate?

10. Have I treated my pupils as my companions, leading them by kindness instead of attempting to drive them by fault-finding?

11. Have I myself seen many of the beautiful things about number—the rhythm of counting? the accuracy of computation? the curious features that numbers possess? Have I observed how strange a "magic square" like this one is—each row, each column, and each diagonal having 15 for its sum, and have I interested my pupils in such curious properties of simple numbers? Do they see, when they cut across the seed pod at the base of a rose, that they always find a five-fold division, and that in nature we continually find such numbers? Have they thought of the three-leafed clover and observed the number three elsewhere in the vegetable world? If they cut across a banana, what number do they find? or across an apple? Have they seen how often, in coming to school, they could find in nature the number two? or three? or four? or five? or ten? If I have, with my pupils, done such things, how greatly have I increased their wonder at nature, and their interest in arithmetic!

8	1	6
3	5	7
4	9	2

12. But above all, do my pupils like their number work? Are they reasonably quick in computing? Are they accurate? Do they see some of the uses of the subject? Will they be a credit to me and to themselves in Grade IV?



COMMUNITY LIFE
and
SOCIAL STUDY

By

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COMMUNITY LIFE AND SOCIAL STUDY

CHAPTER ONE

VALUE OF TEACHING COMMUNITY LIFE IN THE PRIMARY GRADES

EVERY child is naturally curious about the world into which he was born. His home and the life going on in his immediate neighborhood are of absorbing interest to him. We know that little children have a tendency to reproduce in their play some of the aspects of their home and the community life with which they are familiar. All these dramatic activities are connected socially and may be directed into larger channels, so that growing out of them are specific units concerning the significant phases of the children's social environment. Society requires that the schools provide experiences in order that children may gradually interpret the life about them and so become intelligent, useful members of this same society. One author says:[1]

> It is the purpose of the school, then, to provide experiences so that the common needs of all will be met. The content of the curriculum is to be made up of those activities in which all the pupils must participate with a like

[1] F. G. Bonser, *The Elementary School Curriculum.* New York: The Macmillan Co.

degree of knowledge and skill and with like attitudes and appreciations, in order that there may be a unified, efficient, and stable social life.

INTERPRETING AND EXTENDING THE CHILD'S EXPERIENCES

Only as these experiences appear in life situations does the child feel the need for and appreciation of them. The aim of education, then, is to guide toward those purposeful activities which will prove of greatest benefit to the individual child, choosing among those aspects of everyday experiences activities that will help the child to understand and appreciate more of their meaning and significance. If he really participates in these experiences, he will observe and understand things which he previously disregarded. Moreover, he will better appreciate the need and value of tools by which these experiences can be more effectively extended and he will make an effort to master the use of these tools.

Modern psychology says that children learn through experience, so we should set up a certain environment in school whereby they learn about the typical human activities through experiences which move forward through the children's own initiative.

The Family Group as a Focusing Point. The family group is the first social group with which the child has definitely established relations, so it is the beginning point or the focusing point of his relations in the world environment. The home must be the channel through which he will interpret other social experiences. By beginning with these family relationships and gradually radiating into wider and wider circles of relationships, socialized meaning will be given to the child's experiences so that his attention will be directed to new aspects, and new experiences will open up for him. The home does not, in fact it cannot, stand as an isolated unit complete by itself, but it receives the wherewithal to carry on its life from the community, so the needs of the

family make it necessary to lead from the home to all the other factors of the community. Thus we have contacts with the milkman, the grocer, the baker, the farmer, and many others. Likewise, a consideration of these people leads to inquiries about how they live, how they do their work, where they get their products, thus leading farther and farther out into the industrial and social life of the community.

Learning by First-Hand Contact. These studies of community life should be carried on through the first-hand contacts afforded by trips into the neighborhood, thereby giving opportunities for discussions and more experiences. They give insight into the mechanisms of social life, for no matter where the child turns he sees work being carried on—buying, selling, people working in mills, post offices, on farms, running trains or boats, building houses, quarrying rock, cutting trees and making them into lumber, and numberless other operations of everyday life. Through understanding these factors—and even more important than understanding them is realizing a need for them—the child will develop right attitudes and interests that will carry over into future permanent interests and investigations.

Primitive and Modern Home Life Compared. After the units of the home and community have been developed, a contrast may be shown between our modern life and the life of early man when he lived close to nature. Some of the complexities of our modern life are clarified by going back into the past and showing how various social arrangements came into existence in response to specific needs. We can trace their development step by step, as the procuring of food among the Indians and Eskimos. It is interesting and easy for the child to grasp some of the problems which confronted primitive man. He can follow the steps through which primitive man recognized his needs and finally invented (or thought out) the weapons and instruments that enabled him to overcome his difficulties. Primitive people had to learn how to overcome matters of cold and hunger and to change the conditions of life so that life itself became entirely different.

> Because the child is interested to know how primitive man grappled with the obstacles about him, how he invented ways of overcoming these obstacles, what resources he had to draw upon—for all these reasons his own clothing, his shelter, his food, the nuts, fruits, trees, animals, birds, fish, grasses, the mountains, plains, rocks, forests, oceans, and streams, all come to have a new significance. Thus certain facts of daily life that would otherwise have no meaning for him become of vital interest because they represent the stage of progress made by the race and indicate to him how the past is related to his own complex civilization. The occupations of his elders have a new meaning for him. He has new motives and wishes to repeat some of the processes.....[1]

In the study of any primitive people the aim is not to dwell upon the sensational features of these people but to lay the emphasis upon how they solved their problems and how they advanced, and to compare their ways of procuring food, clothing, and shelter with ours. Comparison between past and present will develop appreciation for the present life.

Units of Study. Since the Home and Community topics are related closely to the experiences of the six-year-old child, it seems wise to begin these units of study in the first grade. If children live in a small town situated in a rural district or in a rural district where farm experiences are a part of their early life, the teacher may include a study of Farm Life in the first grade and distribute some of the Community Life projects in the second grade. Such topics as Indian Life, Eskimo Life, and a study of clothing are more suitable for second and third grades than for first. Participation in activities related to these topics is based upon a certain amount of experience gained from Home and Community Life topics.

OBJECTIVES

To develop those appreciations and ideals necessary for a complete understanding of social life, we may set up the

[1] John Dewey, *The School and Society*. Chicago: The University of Chicago Press.

following objectives for the study of Community Life:

1. To socialize the child's experience and develop understanding of social relationships.
2. To develop appreciations needed to meet the ideals of present-day standards.
3. To develop desirable attitudes and habits and to aid the child to see the reason for their desirability.
4. To encourage fully spontaneous expression of the child, to use freely purposes and activities leading on from his experiences into the most desirable experiences in meeting the needs of the full round of human life.
5. To clarify the child's ideas and intensify his interest in the activities of everyday life in order to form a basis for the understanding of social life.

CHAPTER TWO

THE STUDY OF HOME LIFE

SINCE the home is the background in relation to which the child will interpret all his other experiences, a study of home life is naturally the point at which to begin when one seeks to widen the child's knowledge through actual activity. The objectives of a study of home life in the primary grades are many. If properly developed such a study should help the child to understand the house in which he lives, to know the use of each part of it, to realize the necessity and desirability of having his house clean and attractive, and to extend this knowledge to that of a model home. It should teach him the duties of each member of the family in the home. He should come to recognize his own duties in his home and to understand the various occupations of the other members of his family with a resultant appreciation for what is done for him by them and for the pleasures provided for him in his home. The study should help him to grow in responsibility through the feeling that he is sharing in the home duties. It should help him to understand better the labor that goes into the building of a home, the kinds of material involved in building a modern home, and the sources of the more important of these materials. In addition to an understanding and appreciation of his own home, the child, through the study of home life, will have acquired a point of view from which better to judge activities outside the home.

FORMS OF APPROACH

THROUGH HOUSEKEEPING PLAY. The subject of home life may arise out of the activities carried on in school at the free-play period, the period before school, at recess, or at noon, when the children have an opportunity to participate

in "playing" the occupations of their elders. If the teacher has sufficient space in the room she will set the stage, so to speak, so that the pupils will be stimulated to engage in housekeeping plays. She may provide two or three large boxes and place them in one corner of the room. One teacher put out dolls, dishes, and some small furniture in one corner of the room. The idea which these materials suggested was expressed in the following words: "Well, goodness, we have our dining room out of doors. We ought to build a house for it." The teacher took advantage of this remark and the study of home life was started.

The pupils of one group who were furnished with large boxes took possession at once and began to play house with no materials, but after a day or so one of the group said to the teacher, "We could build a playhouse."

The children in still another group were playing with toys, and after stacking them in one corner of the room when through playing they decided that a place was needed in which to put away their playthings. The toy furniture to be put away suggested a house and its various rooms. The toy stove suggested a kitchen, the bed called for a bedroom, and with these as a beginning the need for other rooms was felt.

Through Toy Furniture Brought from Home. In one first grade a small boy brought to school some paper cut-out furniture for a kitchen and bedroom. The pupils were delighted with it and they immediately began to plan a place to put it. One child suggested using a window sill but this could not be carried out because a recent ruling in the district prohibited the placing of anything on the window sills. Another idea was, "A paper box to stand in the corner." This was met with, "We couldn't get one big enough for the furniture." From another, "Yes, we could. We could make one of paper." "It wouldn't be big enough," answered another pupil.

Finally, through this preliminary discussion came the best suggestion of all: "I know what we could do. We could get an orange box from the store. It has a shelf and we could

stand it up on the end." This suggestion met with much enthusiasm from the other members of the class and several offered to bring such boxes when they returned to school after luncheon. Now that the project of the home was launched it was but a slight step to get from the children a list of the rooms needed. They decided that a living room, bedroom, kitchen, and dining room would make a nice home.

THROUGH CONVERSATIONS OF TEACHER AND CHILDREN. If the children do not suggest the study themselves the teacher may lead up to it in a conversational way. She may ask questions about the various homes of the group as, "How many rooms do you have in your home?" "What do you use the kitchen for?" "In what room do you sleep?" "Where do you eat?" Some child may not have a dining room in his home. In the conversation the needs for each room will be made clear. The teacher may then ask the children if they would not like to build a house in which there will be a kitchen where the food is cooked, a dining room where it is eaten, a living room where the family gathers, and a bedroom for sleeping and dressing.

THE PROJECT OF THE HOME DEVELOPED[1]

ANY one of the approaches to the project of the home described in the preceding pages may be used or the teacher may combine several of these forms of approach.

DISCUSSION CONCERNING HOUSE PLAN. The topic having been suggested and decided upon, the plan of the house is the next problem. The children talk about the number of rooms they wish to have. If the children come from homes where there are rooms used for other purposes than the rooms in the ordinary four-room house, they may decide to include such rooms as a playroom or a library. However, the usual project consists of four rooms.

[1] Acknowledgment is due Miss Olga Adams, of the University Elementary School, The University of Chicago, for suggestions on teaching the Home Life project.

The materials out of which the house is to be built are discussed by the children. "What are our houses made of?" is the question asked by the teacher. The children give such answers as "wood," "brick," "stucco," and "stone." They decide that it will be easier to build a wooden house and suggest getting boards and nailing them together. The teacher leads them to see that this will take a long time and asks them to think of other ways. The suggestion to procure boxes to use will no doubt be given as was suggested above, and the teacher may tell the children that large packing boxes about four feet square are the best to use, indicating the dimensions by comparison with familiar objects. These boxes make good rooms and may be fitted together well for a house. Doors may be cut between the rooms and windows may be made to let in light and air. With a brace and bit and saw one group cut three doors, two windows, and a fireplace.

Committees and Their Work. The children talk of the different rooms to be shown and if the class or group is large they decide to have committees to take charge of the various parts of the project. The following list of committees is suggested for any large group working on the home:

Committee to build the house
Kitchen committee
Dining-room committee
Bedroom committee
Living-room committee
Bathroom committee
Wall paper committee
Window boxes committee
Curtains committee
Rugs committee

So far as possible the teacher allows the children to volunteer for the committee upon which they wish to work. She may have to guide the selections, keeping in mind the abilities of the different members of the group. In cases where more than the required number of children wish to serve on the same committee the class may vote upon the volunteers. Then the names of those on the committees are printed under the names of their respective duties on a piece of tagboard which is hung so that the group may read it.

Each committee should meet daily with the teacher to

plan its work. Each member of the committee should be made to feel his responsibility, more by the attitude of the group than by the teacher's constant reminder. The different committees should report to the class as a whole so that there will be an opportunity for this feeling of responsibility to the class to develop. A group of first-graders were planning to build a house and a little girl in the group said to her mother one evening, "Mother, I am on the committee to make the furniture for the living room for our house." "What have you made?" asked her mother. "Oh, I haven't made anything," answered the child. "We haven't planned what each one is to do yet. Tomorrow we have our first meeting to plan what we shall do." She did not say, "The teacher hasn't told me what to do," but, "We haven't planned what each one is to do."

The responsibility of planning and carrying out was placed on the children, not on the teacher.

Developing a Spirit of Cooperation. A constructive critical attitude should be developed so that each child will be a judge of his own work and also a kindly judge of the work of the others in the class. As the work progresses there should develop that spirit of cooperation which makes children welcome the criticisms and suggestions of various members of their own group or those of another group. In a kindergarten where the project of the community was worked out, constant constructive criticism from the children was encouraged, aided by group discussions and comments. One day a child from another group came into the room and observing the buildings of this community project on the floor remarked, "These are pretty funny-looking houses. I don't see a single chimney."[1] Needless to say, the owners of the houses without chimneys hastened to add them.

The following materials and methods of construction may be used for the house and its furnishings:

The house. The house may be built of fruit crates papered

[1] Parker and Temple, *The Unified Kindergarten and First-Grade Teaching.* Chicago: Department of Education, The University of Chicago.

on the inside and painted green or white on the outside; or of packing boxes, cardboard, or large blocks; or Elizabeth Walker building boards may be used. Beaver board is a good material for the roof.

Furniture. This may be made from blocks of soft pine wood, construction paper, or from wood cut to the proper size for the children who nail it together and stain it.

Rugs. The rugs may be woven out of cotton roving on large wooden looms made by the children. Rags may be substituted for cotton.

Bedding, curtains, towels, table linen. Scraps of material may be brought from home to be used for these articles.

Dishes. Clay is a good medium for the dishes or they may be cut from paper and decorated.

Wall paper. A design may be worked out by the children on yellow or white manila paper, or light brown wrapping paper may be used.

Window boxes. Shoe boxes or any small boxes painted and filled with paper flowers made by the children make attractive window boxes.

Cupboard for dishes. A long box standing on end or blocks may be used for the cupboard.

The discussion on building a dollhouse and on the making of wall paper, furniture, rugs, and dishes, which is given in the department on Industrial Studies (Vol. III, Chaps. II and VI) will be very helpful if used with this project.

THE STUDY ITSELF

The making of the playhouse now becomes the center of great interest and activity. As the children work they exchange ideas and suggestions. Nothing is of greater value for promoting originality and initiative than periods of oral discussions in which the pupils talk over their plans together or in which they are working and experimenting to find out the best way to make a table or a bathtub, or how to make the wall paper stick. After some discussions about the last

problem named, one child brought a roller from home and put on the wall paper in a practical way.

The teacher should make an effort to adapt the study to the centers of interest; that is, if questions or remarks arise among the children concerning what their fathers do or what their mothers do at home the teacher may guide the discussion toward the duties of the different members of the family. John has a father, mother, and two brothers. Mary has a father, mother, and one sister. Jean says her mother cooks breakfast, dinner, and supper. She cleans the house and irons the clothes. Margaret contributes the information that her mother washes the clothes as well as irons them and Helen says that her mother mends the clothes, too. So through the children's experiences the conversation brings out the work of the different members of the family, assigning to Father such duties as working for the family, taking care of the car and the yard; to Mother the various duties of the household.

It is but a step from the discussion of what the parents do to a discussion of what the children do. Each child may contribute the description of one thing that he does to help Mother and one thing that he does to help Father. He may draw or bring a magazine picture illustrating what he does to help. As he shows it to the class he tells his duty, as:

I help Mother bring in the clothes.
I open the garage door for Father when he drives home.
I get the morning paper for Father.
I dry the dishes for Mother.
I set the table for Mother.
I go to the grocery for Mother.

Making a Story About the House. The teacher may say to the children, "Perhaps you would like to make a story, telling about our house, so that we can hang it up for other children to read when they come into our schoolroom. They may be interested to know that we are planning to build a playhouse. What shall we call our story?"

Mary says, "Our Playhouse."

"Yes, that is a good name," says the teacher as she writes the title on the board. "What is it we are going to call our story, James?" The teacher slides her hand or a manila marker under the written form of the title as James repeats it.

"Now what shall we say?" asks the teacher. One child responds, "We are going to build a playhouse in our room." "I wonder who can say that in a shorter way," asks the teacher. Elizabeth gives this sentence, "We are going to build a playhouse." "That is better but I wonder if we can say it in an even shorter sentence than that. I believe that we can begin with, 'We shall.' Now who can give it?" All the class wish to respond since it is very easy to see that, "We shall build a playhouse," is the shortest way to tell it. The teacher writes, "We shall build a playhouse" on the blackboard and has several children read it as she slides her hand under the sentence.

"Now, who can tell about the rooms?" asks the teacher. Quickly come the responses:

We shall have a living room.
We shall have a dining room.
We shall have a kitchen.
We shall have a bedroom.
We shall have a bathroom.

The teacher writes the sentences on the blackboard as the children give them and then reads the composition for them:

OUR PLAYHOUSE

We shall build a playhouse.
We shall have a living room.
We shall have a dining room.
We shall have a kitchen.
We shall have a bedroom.
We shall have a bathroom.

After the teacher reads it through for them she says, "Who can slide his hand under the title, 'Our Playhouse'? Who can find where it says, 'We shall build a playhouse'? Who can find where it says, 'We shall have a living room'? Where it says, 'We shall have a dining room'? Where it says, 'We shall have a kitchen'? Where it says, 'We shall have a bedroom'? Who can whisper in my ear the sentence that is left? All right, Nelson. Yes, that is right; tell the class, Nelson, and show them the sentence."

The next day the story is printed on a chart and the teacher follows the same procedure in conducting the reading of it that she used the day before.

Other charts composed by the children may be longer than this one and may not be so repetitive in character. When the stories composed are longer, they will not be so valuable for reading lessons. Only the simpler, shorter stories with ordinary vocabularies may be used for reading lessons. Some will contain a greater number of words which are not so commonly used and therefore will derive their chief value from the fact that the children compose them. It is a significant fact for the children to see that what they think and say may be expressed in written or printed form.

Discussion Concerning Building Materials. The question, "Of what shall we build our playhouse?" may lead to observations concerning the materials used in the building of actual houses. As the pupils go ahead with the building of the playhouse, the community life or oral composition periods may have as their content observations and stories of how the wood is procured for houses built of wood, where we get the brick for our brick houses, and where we get stone for our stone houses.

Much of the information may be given by means of pictures, since children of first-grade age are not able to understand all the steps of the detailed processes of lumbering, brickmaking, and quarrying. However, since the children are likely to ask questions concerning the source of these materials when they are constructing their house, it is most important for the teacher to be prepared to give simple answers to any questions that may arise. With the use of pictures and simple stories and explanations the children's experiences may be considerably clarified and even extended.

If it is possible to take the class to a house in the process of construction such a trip will be well worth while. If there is a brick plant near by, an excursion may be made. The teacher should be prepared to answer questions concerning other materials used in the construction of houses, for the children will

no doubt mention such things as nails, steel, iron, plaster, glass, and cement. The following are simple stories of wood, brick, and stone which are suggestive of the way the teacher may develop other stories.

WOOD

Some of you have been wondering where all the wood comes from that makes our houses. How many of you have ever been in the woods? John and Mary told us about their trip through the north woods this summer. Some of you have been in woods near the town, haven't you? How many of you live in wooden houses? Yes, many of you do. Many houses, barns, and garages are built of wood. Many trees give us the wood for these buildings. The trees have to be cut down and made into boards and shingles before houses can be made of them.

The men use axes and saws to cut down the trees in the woods and when the trees are cut down they load the logs on great big wagons or sleds and send them to the river to be floated to the mills, or more often the logs are taken to the mills on flat cars. At the big mills the logs are sawed into timber and boards. Now the wood is called lumber and this lumber is sent to many towns and cities to be made into houses. Here is a picture (showing a picture of men cutting down trees). Who can tell me what this picture shows? And what does this picture show? (The teacher holds up a picture of the flat cars loaded with logs and another picture of finished lumber being unloaded from box cars.)

Pictures of the logging industry, which the teacher may use in connection with the study of wood, appear on page 433.

When the children are making paper bricks to represent real bricks for the chimney and fireplace they will be interested to hear about brickmaking. The teacher may tell the story in the following manner and show the children the picture of the brick kiln on page 432.

BRICKMAKING

How many of you live in brick houses? I heard Harry say yesterday as he was making the doors in our playhouse that it was a good thing that we were making a

wooden playhouse instead of a brick house because it would be harder work to build a house of brick. Have any of you ever seen bricks made? Who can name some of the buildings in town made of brick? Yes, the Library and the First National Bank. Do you think of any reason why brick is better for building than wood? Richard is right when he says that a building made of brick will not catch fire so easily as one made of wood. If the brick building does catch fire it does not burn so easily.

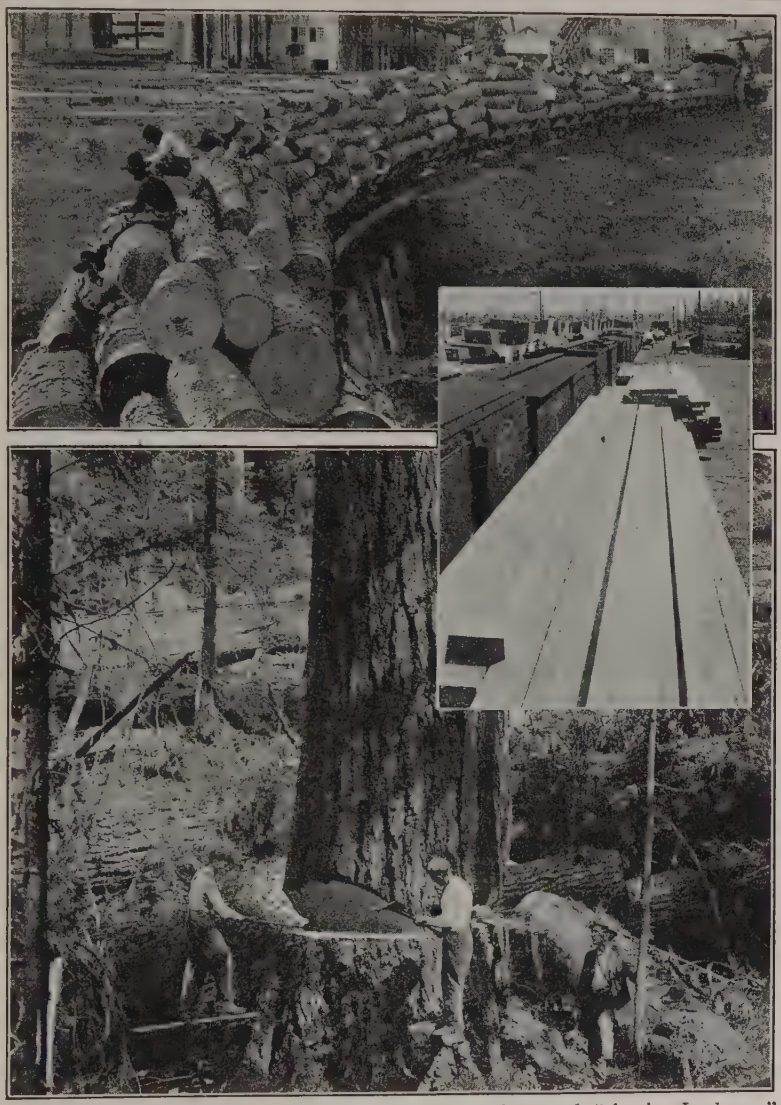
When you make things with clay do you ever stop to

Courtesy, the "Brick and Clay Record"

The beehive kiln is one of the commonest types. In this the bricks are "fired"

think that bricks are made of clay? Yes, men have to dig clay out of the ground and clean it well. It is very dry and it goes to a mill where it is crushed into powder, mixed with water and put into molds. Each mold holds so many bricks; perhaps six bricks, perhaps a dozen. The number depends upon the size of the mold. The molds are turned upside down on tables so that when the bricks are dry they will fall out. The bricks lie there for eight or ten days so that they will dry and then they are hauled to the kiln.

Who knows what a kiln is? Here is the picture of a kiln. Yes, it is a great big oven. The men pile in the bricks until the oven is full. Then they turn on the heat and the bricks bake for about four days. After they are baked they have to cool and then we say, "The bricks have been fired." Frederick asks why some bricks look smoother



Courtesy, the "American Lumberman"

Here we see men cutting down the great trees; the logs being shipped to the sawmill on flat cars; and the finished lumber ready to be loaded into box cars for shipping to its final destination

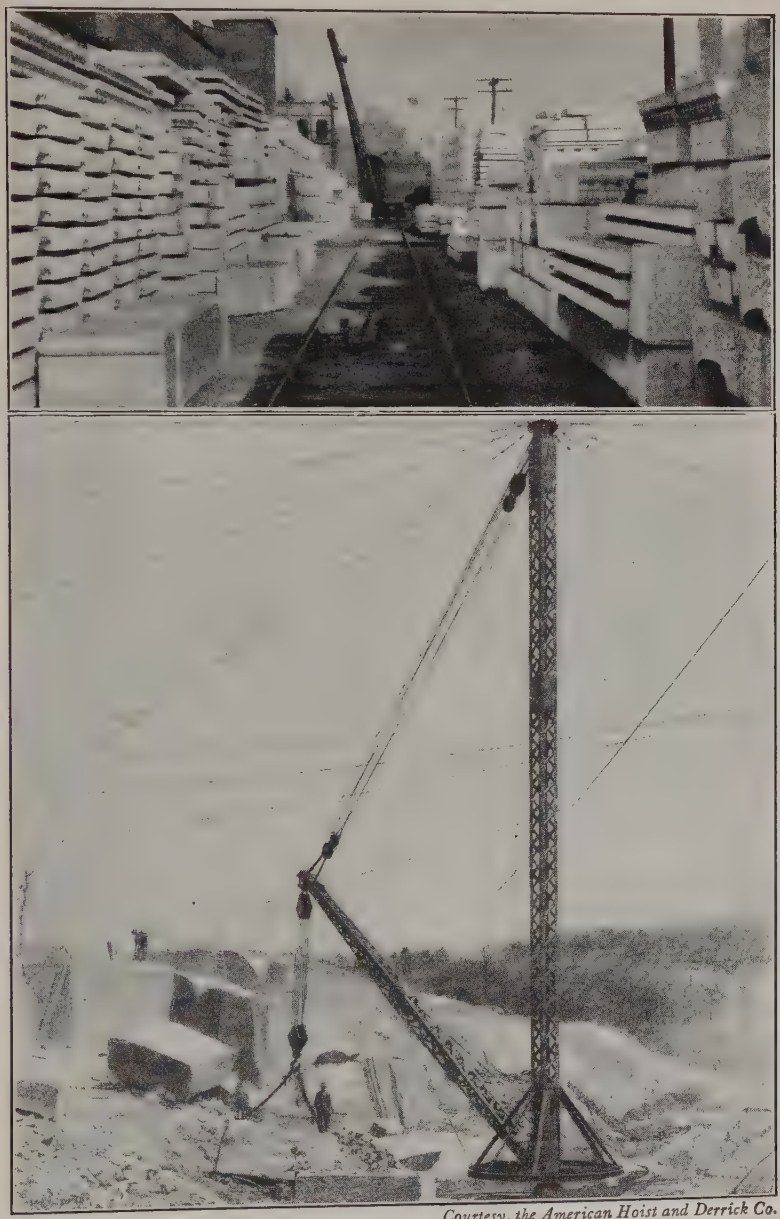
than others. A much finer clay is used for these bricks and they are pressed by machinery and are fired for a longer time than ordinary bricks.

STONE

Janet says that she lives in a stone house. Stone houses last longer than wooden ones, do they not? Fire cannot destroy stone houses any more than it can destroy brick houses. Which do you think are harder to handle, bricks or blocks of stone? Yes, stone is much heavier and harder to handle. Stone has to be taken from the earth and the work of digging it from the earth is called quarrying. Men have to use machinery to help them handle the great blocks of stone. Who knows the name of one kind of stone? Yes, sandstone is one kind. Another is granite, a very hard stone, much harder than sandstone. Another is limestone. Here is a picture of a great machine called a derrick, lifting the great blocks of stone. Cranes swing the blocks around and then lower them to a car. How do you think they smooth the rough blocks of stone? Yes, with a chisel. Here is a picture of a limestone quarry. Limestone is used for buildings more than any other stone.

The pictures on the opposite page showing a derrick lifting stone from the quarry and a crane used for loading it onto cars may be shown in connection with the study of stone.

Discussion of the Uses of Various Rooms. As the children plan the furnishings of the different rooms they naturally talk of the uses of the various rooms by the family. One child brought in a picture of Mother cooking in the kitchen. Others brought in pictures of rooms and parts of rooms which they had cut from magazines showing furnishings to advertise certain articles such as rugs, curtains, floor varnish, heating apparatus, and furniture. The teacher allowed each child to show one of his pictures and tell something about it to the class. He was encouraged to tell only the most important things. Sometimes a child is too timid to give more than one sentence but if that sentence is a complete one, as, "This is a bedroom," that is satisfactory. Types of oral compositions given by the children appear at the top of page 436.



Courtesy, the American Hoist and Derrick Co.

Above is shown a crane used to swing big blocks of stone onto a car. The lower picture shows a derrick lifting the heavy stone from the quarry

This is the kitchen.
We wash dishes in the kitchen.
Mother cooks in the kitchen.

This is a picture of the bedroom.
We sleep in the bedroom.
We have our windows open.

This is the living room.
In the evening we read in the living room.
Sometimes we listen to the radio.

This is the dining room.
We eat in the dining room.

This is such a pretty clean bathroom.
Everything is white.

The kitchen and the dining room. The pictures selected by the children helped them to decide what furnishings they would use and the arrangement of the furniture. In furnishing the kitchen, the kitchen committee of one class decided to place the sink so that the mother could look out into the garden while she worked. Another child added, "Let's put a cupboard for the dishes on one side of the sink and the pans underneath. That is the way our kitchen is fixed. My mother says it is very convenient that way." The kitchen and dining room bring in problems of utensils and dishes to be made of clay or cut from paper. The children play freely with these and are led to play at cooking meals and serving them.

This leads to the question: "Where do we get our food?" "From the garden, the store, and the farm." The children name some of the things which we buy at the store, as salt, pepper, sugar, coffee, bread, and breakfast foods. Vegetables we can also buy at the store or we may go to the garden to get them. Some of the children volunteer that they have gardens and grow lettuce, radishes, onions, beets, beans, and peas. If the home project is taught in the fall it is connected with the farm, and emphasis is placed on the harvesting and storing of goods.

The dramatization of meals in one class led to the actual preparation of a meal. The children baked apples. They took

a trip to the grocery store, bought the apples, took them to school, and washed them. They talked together of how Mother bakes apples and decided to do these things:

Take out the core.
Fill hole with sugar and currants.
Put in a lump of butter.
Bake.

They invited their mothers and had a luncheon consisting of baked apples, crackers, and milk. They cut the napkins out of tissue paper and set the table.

The living room. The living room necessitates a discussion of what the family does in the living room. The contributions given in the class being referred to included: We read; Mother sews; Father reads the paper; we play games; we listen to the Victrola; we talk to our friends; we listen to the radio. Since all these things are done in the living room, it must be furnished and arranged so that it will be very attractive and pleasant. The teacher asks, "What are the furnishings that we shall need?" The names of the articles brought forth in the conversation may be printed on a chart for the living-room committee to refer to. For example, the following items were selected to be listed on the chart:

THINGS FOR OUR LIVING ROOM

Big table	Davenport	Pictures
Chairs	Bookcase	Small table for games
Lamp	Rugs	

Perhaps the class composes a group composition telling the things that they will need in their living room. They contribute the sentences to the teacher who writes them on the board:

THE LIVING ROOM

We need a rug.
We need some chairs.
We need a davenport.
We need a bookcase.
We need some curtains.
We need a table.
We need some pictures.
We need a piano.

The children who composed this group composition must have had in mind the picture of a most attractive living room:

We need a clock for the fireplace.
We need some candlesticks.
We need some books for the bookcase.
We need some cushions for the davenport.
We need some music for the piano.

As they talk of the furnishings for the rooms they make group compositions about them.

Charts Showing Furnishings. The pupils enjoy helping the teacher make large charts of the various rooms. A separate chart is made for each room and on it the children paste pictures which they have collected to show how that room is furnished. For example, a large piece of tagboard is labeled, "The Living Room." The children look at pictures in popular magazines of attractively arranged living rooms, talk over what furniture should go into a living room, and each child brings in one picture of an article to be placed on the chart. When the pictures of the various articles to go in the living room have been arranged in an artistic manner on the chart the name of each piece of furniture or article of furnishing should be printed underneath it so that the name of the article and the article itself are related in the minds of the children.

When the children make their Home Books (see p. 442) they take small sheets of paper to fit their books and make small charts. The teacher prints enough names of commonly used pieces of furniture, as chair, table, rug, picture, stove, piano, davenport, lamp, bed, so that each child will have a set of names corresponding to the pictures which he will collect. The teacher plans that in a certain period the pupils are to make the small living-room charts for their books. She hangs the big chart of the living room before them. When a child does not know which one of his little printed labels says "chair," he takes it to the big chart and matches it with the names there until he finds out where "chair" belongs on his little chart.

RELATION OF HOME LIFE TO OTHER SUBJECTS

Oral Composition. Throughout the study of home life there is much opportunity for oral discussion. When the children begin to talk of their home experiences and to bring in pictures relating to home life they express themselves orally. This expression should be free and spontaneous, the only requisite being that one child should wait to express himself until another child has finished. The teacher has to guide the discussion through suggestive questions, but the whole study should be based on the contribution of the children. The teacher may have in mind the general procedure of the study as a whole, but the children's interests determine the general trend. The following points sum up the opportunities for oral composition:

1. Contributing experiences relating to the home.
2. Conversation about what the house shall be made of.
3. Conversation about the materials of real houses.
4. Conversation about the number of rooms in the house.
5. Conversation about the uses of the rooms.
6. Conversation about the furnishings of the rooms.
7. Conversation about the duties of members of the family.
8. Conversation involved in making room chart.
9. Conversation involved in making books.

Group Composition. Those topics which are of especial interest to the class should be composed by the pupils as group efforts and may be printed by the teacher as chart "stories" to be hung before the group. The method is the same as that described in "Our Playhouse," page 427.

As was stated before, the longer compositions are not used for reading exercises. They are read through as a whole but are not subdivided into sentences and phrases for drill in reading. The following are types of group compositions which may be composed by the class:

We can sweep our floors.
We can set our table.
We can dust our floors.

We can wash our dishes.
We can iron our clothes.
We can wash our clothes.

Some houses are made of wood.
Some houses are made of brick.
Some houses are made of stone.
Stone houses last longer than wooden houses.
Stone houses do not burn easily.

We get wood for our houses in the forest.
The men cut down the trees.
The logs are sent to the mill.
The mills make them into lumber.
We use lumber to build our houses.

READING. The study of home life furnishes many opportunities for work in reading, for example the following:

1. Reading the charts of the different rooms.
2. Reading labels on various foods in the kitchen, as *salt*, *pepper*, *bread-box*.
3. Reading the charts with names for the various committees.
4. Reading the explanatory sentences under the pictures on charts, or in the children's Home Books, as, "Mother cooks in the kitchen."
5. Reading the group reading lessons, as:

Mother washes on Monday.
Mother irons on Tuesday.

THINGS WE CAN DO TO HELP MOTHER

We can set the table.
We can go to the store.
We can be prompt.
We can dress ourselves.
We can hang up our wraps.

THINGS WE CAN DO TO HELP FATHER

We can get the paper.
We can open the garage door.
We can rake the leaves.
We can bring Father's tools.

ART. Children wish to express themselves by drawing as well as by oral speech. They will draw pictures of themselves helping Mother in the kitchen, setting the table, attending to the baby, eating, listening to the radio, going on errands for Mother, and going to bed. They draw pictures to illustrate some of the poems used in connection with home life, as, "I Like Little Pussy" and "Little Mother." They will draw pictures of the different rooms in the house and different articles of furnishings in the various rooms. These drawings should be made informally without stress on the technique of drawing. Undue emphasis on the technique of drawing tends to kill originality in the expression of ideas. The reason we allow the pupils to express themselves by drawing is not to develop skill in art, but to provide another avenue of expression. Drill in technique may be given later.

LITERATURE. There are a dozen or more poems relating to home life that can be used in the literature periods. The teacher may select a certain number from those included in the study which are appropriate for her group of children. A poem that will appeal to one group may not appeal to another. Some, as "The Home Builders" and "Sonny Boy," may be read to the class without the idea of the children's memorizing them. The shorter ones, such as "I Like Little Pussy," or "Pussy Has a Whiskered Face," may be so greatly enjoyed by the children that they memorize them without any great effort on the part of the teacher. In fact, poetry study with young children should be primarily enjoyment of the poem, while listening to the teacher say (not read) it several times. Perhaps the poem[1] to be taught is:

Pussy has a whiskered face,
Kitty has such pretty ways;
Doggie scampers when I call,
And has a heart to love us all.

CHRISTINA ROSSETTI

[1]From *Sing-Song*, by Christina Rossetti. Reprinted by special arrangement with The Macmillan Co., publishers, New York City, and The Macmillan Co. of Canada, Ltd., Toronto.

The children have been talking in the community life periods about the pets they have in their homes and have told about their pet dogs and cats. The teacher may say, "I know a poem about a pussy and a doggie that must have been pets, too. Shall I tell it to you?" The teacher having memorized the poem says it over to the class several times. After she has given it the first time she allows the children to talk about the poem and to tell what parts they like best. Then she repeats it. When they try to describe the line or the part they like best, she helps them to use the words of the poem, so that without knowing it they are memorizing it. As soon as they can say the poem correctly they may be allowed to draw a picture to illustrate it. The teacher has printed copies of the poem made so that each child may have a copy to accompany the picture when he has drawn it.

Making Home Books. The children collect many pictures, cut them out, and paste them on yellow manila paper. They draw pictures to illustrate the various activities and subjects connected with the study. Unless there is some way to keep putting these pictures together they get into a hopeless state of confusion, both for teacher and pupil. We know that children like to collect; they like to keep their possessions. Taking advantage of this characteristic of children the teacher suggests that they make a "Home Book" in which to place the drawings which they make, the nicest pictures which they collect, and the stories which they compose.

The simplest book covers are made of colored construction paper 9 by 12 inches, but if construction paper cannot be obtained any paper heavier than ordinary writing paper may be used. Even ordinary wrapping paper may be made into attractive covers with colored pictures drawn on the cover by the children. The teacher punches holes in the covers to fit the holes in the yellow manila paper. Brads or cord may be used to hold the leaves together. The teacher may ask the class what suggestions they have for the name of the book. Some may suggest "Home," some "Our Home," some "Our House." If the children are too young or too immature to

print the name on the cover, they may cut block letters and paste them on to form the name chosen. If the teacher feels that cutting block letters is too difficult for them, she may print on the covers the name which they have decided upon, as "Home," and each child's name. The children may either draw an appropriate picture on the cover or may paste one on which they think is indicative of the subject. They put into their books the following:

1. Pictures which they have collected, with accompanying explanatory sentences either printed or written by themselves, as "We eat in the dining room."
2. Pictures drawn by themselves.
3. Pictures with labels, as "A stone house," "A wooden house," "A brick house."
4. Charts of the different rooms.
5. Compositions composed by the group.
6. Any reading lessons or stories adapted or selected by the teacher.
7. The poems which they have enjoyed especially.

OUTLINING THE STUDY OF HOME LIFE

If the following outline for the project of home life is carefully studied by the teacher before she begins to develop this subject in the minds of the children, it will be of immense value to her. To present this outline to the children in its entirety would of course result only in great confusion in their minds, but a clearly worked-out idea of the complete study in the teacher's mind makes it possible for her to correlate the various phases in a way that will help the children to develop the whole activity in a logical and natural manner.

I. The house.
   - A. Types of houses
   - B. Materials used in buildings
   - C. Plan of rooms
   - D. Use of each room
   - E. Furnishings for each room

F. Heating the house
G. Lighting the house

II. The family and their activities in the home
A. Members of the family
B. The relation of the family to the home
C. Pleasures in the home
D. Habits to be formed in the home

III. Activities outside the home
A. Church—going to religious instruction
B. Going to school
C. Going to parties and picnics
D. Going to movies, theaters, beach
E. Going shopping
F. Going to library, museums, etc.
G. Playing out-of-door games

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CHAPTER THREE

THE STUDY OF COMMUNITY LIFE

THE teaching of community life has for its aim to make the child more intelligent about his environment. The child of six or seven years tends to take for granted the everyday world around him. So many things are happening that it is difficult for him to interpret much that occurs. The teacher must provide opportunity for those activities that will help the child to observe, understand, and to some extent appreciate the meaning and significance of the different factors in the community. There are people living in each community who contribute to the welfare and happiness of others, and the aim of the teacher should be to make the child keenly conscious of this fact. To develop "a sense of others" is to establish a feeling of mutual relationship, a sort of fellow feeling, which leads to a respect and sympathy for others.

Accepting everything as a matter of course means taking no thought of the labor involved in transportation, in the supplying of milk, in fire protection, in the management of the different kinds of stores, and in the other phases of community life. Interest in community activities creates an interest in the source of things which the community affords. A greater interest in the labor involved and in the source of community materials leads to a feeling of consideration and sympathy toward others. In this way the child begins to appreciate the benefits that he receives from the grocery man, the milkman, the fireman, the postman, and all the workers in the different systems.

OBJECTIVES

The efficient teacher will strive to awaken an intelligent interest in some of the important factors of the social envi-

ronment; to direct the child's observation toward various features of the community in which he lives; and to bring about some degree of appreciation of the labor and efforts of others. Children must be helped to understand the means by which the community supplies the family's needs, and the ways in which the people and their homes are protected. It is also essential that they learn to appreciate and use in the best way those institutions in the community which lead the people toward better and happier lives. Children should be led to respect the dignity of labor and to understand the interdependence of man in the community, so that the individual child will see that the community in which he lives is a well-regulated and coherent whole of which he is a part.

FORMS OF APPROACH

There are various ways in which a consideration of community life may be approached. Sometimes a discussion of the toys which the children bring to school may be used for this purpose. In one class toy trains, tracks, automobiles, and dolls led to the suggestion from a child, "Let's build a town." Blocks and toy cars may serve the same purpose.

The activities connected with the study of the home cannot proceed far without bringing in some reference to the community and the family's dependence on others. For instance in engaging in housekeeping plays, mention will be made of the stores in which different articles are bought or of the industries which produce them. In considering the lighting of the house the dependence of the family upon another phase of community activity will be brought out.

A COMMUNITY LIFE PROJECT[1]

ONE group of children who had finished making a playhouse decided to make a street for their house. When they began

[1] Acknowledgment is due to Miss Marjorie Hardy, of the University Elementary School, The University of Chicago, for suggestions on teaching the Community Life project.

to carry out this idea, they added buildings to the street, and very shortly one of the group suggested, "Let's make a town." Thus the community project was started.

PLANNING THE TOWN

When the children had conceived the idea of building a town or city they began to talk about what buildings should be included. As buildings were mentioned the teacher wrote them on the board as follows:

Streets	Stores
Railroad Station	Fire Department House
Houses	Bank
Hotels	Church

"What does a man do before he builds a house?" asked the teacher. One child suggested, "He plans it out."

"Yes, he makes a plan of the house. A plan for a city would be something like a map. Perhaps you would like to draw a plan for your city before you actually begin work. Those of you who cannot draw a plan may draw pictures of the buildings which you think should be in a city. You may use your manila drawing paper and pencils."

After the plans were made, different pupils told about their plans. Some had included more buildings than appeared on the list on the blackboard and some had not included so many. As one after another of the children told about his plan it was noticed that most of them had made two streets to their city, one a residence street and the other a business street. The teacher spoke of this and asked them if they intended to build their city in that way. The response was unanimous because, as they said, "That is the way it really is." The teacher wrote on the blackboard "Residence Street" and "Business Street" and asked the class what they would include under each. The list was as follows:

RESIDENCE STREET	BUSINESS STREET	
Houses	Stores	Hotel
Apartments	Bank	Post Office
Church	Fire Station	

CHOOSING COMMITTEES

Several children expressed a desire to work on special buildings, so it was decided to have committees. As the children volunteered for different buildings the teacher wrote their names opposite the name of that building on the board, and the following day had them printed on charts and hung in a conspicuous place in the room. Such details as people, grass, and trees were not worked out until later.

The next day each committee chose one of its members to serve as a head. The teacher said: "Every good committee makes a report on what it has done. This morning I want the members of each committee to meet and decide what they are going to make and then start to work. Then tomorrow in the community life period each committee head may make a report. You may need a little help now and then, and perhaps I or some of the pupils can give you suggestions. Every few days we shall have reports from the committees." She laid out sheets of construction paper of different sizes and suggested, "It would be a good plan for you to think of how large the building is to be before you cut into a piece of paper."

REPORTS FROM COMMITTEES

The buildings for any project may be constructed either in the community life period or in the industrial arts period, or in both. The greater part of the discussion should come in the community life period, although much of it may be used as content for the oral composition class. If the idea of committees is carried out as was done in this project opportunity should be given for committee reports almost every day.

Report on Houses. When the teacher asked for reports from the committees, the different members of the committee working on houses showed some good results and the members of the class were asked what they thought of them. One little girl said, "John's house is the best. It has a nice porch."

Another pupil spoke up, "I like Paul's best because it has more windows. John's house has only one window." "Why, that is so," agreed the teacher. "John's house has only the one window. Why do we want more windows in our houses?" Without hesitation the answer came from one of the group, "So that the people can have plenty of light and air." John took his house and began to cut more windows in it.

Report on Churches. When the committee on churches showed what they had done—producing one finished church and two others still in the process of construction—there was universal disapproval. "It doesn't look like a church." "It hasn't enough windows, either." Finally came the crowning criticism from one small boy, "I don't think we should build our church of paper, anyway. I think we should build it of blocks, or boxes." This suggestion was greeted with enthusiasm by the class and immediately the church committee acted upon it.

Report on Stores. When the committee on stores reported, they had only dry goods stores to show, these stores being designated by the owners' names as, "Scott's Dry Goods Store," "The Davis Co.," etc. Immediately came remarks from the class, "We should have other kinds of stores in our town." "Why?" asked the teacher. "Because people need other kinds of stores to buy things from." "At what other stores do your mothers and fathers trade?" The responses were: "the grocery store," "the bakery," and "the drug store." So the stores committee returned to their work to make a greater variety of stores.

VISITING COMMUNITY ENTERPRISES

A Trip to the Fire Station. The reports of the committees afforded an opportunity for observing and discussing the various buildings and their uses. The morning that the fire department committee was formed was one of the most interesting times in the course of the project. To begin with, this was one of the most popular committees. Almost all

the boys and many of the girls wished to serve on it. When the members were finally selected the teacher asked them what they would need to make to show the fire department. They suggested the fire house, fire truck, and hook and ladder. This led to a spontaneous discussion of the fire department in which all the children were interested and to which they gave the result of their observations. The following story is suggestive of what the teacher may give, modified, of course, to suit the particular fire department in her community.

HOW THE FIRE DEPARTMENT OPERATES

Firemen are brave men and have to work nights as well as days. They must always be ready to leave everything and go to the fire when they get the signal. There is always a man on watch who first hears the signal and calls it out so that the others will know where the fire is. In most of our fire stations the sleeping rooms are upstairs and if the men are sleeping when the alarm comes in, they jump into their trousers and boots which are always beside their beds, slide down a brass pole—for stairs are too slow—jump into the fire trucks, and put on their coats and caps as they go. We are told that in less than a minute after the alarm the men can be dressed and on the big truck, racing to the fire. The policemen have to keep the people out of the streets so that the fire engine will not have to slow down. The loud clanging of the bell warns the pedestrians and automobiles to keep out of the way.

Perhaps you have wondered about all the things that help the firemen to put out the fire. To begin with, the fire truck is the most important. It always stands equipped and ready to go when it is needed. That means that it has everything on it in readiness to help put out the fire. On the fire truck are ladders, hooks, picks, axes, brooms, lanterns, and the men's coats. If the fire is at night the firemen have to carry a kind of lantern that fire and water will not injure, because it must keep lighted.

As soon as the firemen are in sight of the fire they try at once to decide on the best way to put it out. If the fire happens to be in a tall building, the firemen must be able to reach the top floor, so they take out three or four lengths of hose and some of them drag it with them into the building. While some of the men go inside, the other firemen

start the pumps on the fire engine going to force the water from the hydrant up to the burning building. In a minute gallons of water are sent up through the hose. Some of the firemen have put up ladders and are standing on them, directing the aim of the hose. Sometimes the people in the building or perhaps the firemen are caught in the fire, and then the hook-and-ladder wagon or truck comes up and the firemen put up the tall ladders for them to climb down on. If there is no other way to save people caught in the fire, a large net is held by the men and those who are caught jump into it.

You may know that if the fire department is to be prompt in answering a call of fire, it has to have leaders who in turn have men under them. The head of a fire department is a marshal, or chief. Below him are men who are called deputies, then there are battalion chiefs, and then captains and lieutenants. It is something like an army, isn't it? The firemen correspond to the privates in the army.

There are no braver men in the world than our firemen. We must learn to help them all we can, and the way that we can help is to be careful about starting fires. Most fires are caused by matches and gasoline. We should never leave matches lying about, and we should never place gasoline near fire. We can always be careful to put out our bonfires after a picnic.

Emphasis should be placed on the statement that no amount of verbal description can possibly take the place of first-hand experience by the children. If possible, the teacher should take the class to visit a fire station. They should see the inside of the fire house, look at the fire truck, the hook and ladder, the big hose, and all the different kinds of equipment. The children who worked out the project here described visited a fire department, heard the firemen explain the use of the various wagons, and watched them slide down the pole and show the use of the fire net. It is difficult to say which of the two last-mentioned events were most interesting to the children. After the trip to the fire house the committee added the life net and lanterns to their fire department representation. They also wished to compose a story of their trip to the fire house. This is the result as it was taken down by the teacher.

THE FIRE DEPARTMENT STORY

The Kindergarten

We went to the Fire Department. We saw the fire engine, hook and ladder, and the poles. Two of the children slid down the poles with the fireman.

We went down into the basement and saw the room where the firemen eat. We saw the sink, and the dishes in the cupboard. We went upstairs and saw the beds. We saw so many beds we could not count them. We saw the firemen's boots and their trousers fastened to them.

The hose was hanging in the tower getting dry.

We heard the fire alarm.

A Visit to the Bakery. This was another topic of such universal importance and interest that the teacher felt an excursion would be immensely interesting and enjoyable. She did not wish to suggest it herself, but hoped, through a discussion of what they would need to show in their bakery, that the children would themselves suggest it. When the members of the committee for making a bakery in the community were asked what they were going to show, they first said, "The outside of the bakery." Another child said, "We are going to call it 'Mann's Bakery'." (This was the name of a bakery in the community.) When the teacher asked what they would show inside the replies were "loaves of bread" and "a big oven." "How many have seen the big oven in Mann's Bakery?" asked the teacher. A few of the children had, and remembering the excursion to the fire department, they immediately suggested a visit to Mann's Bakery. If it is impossible for a teacher to take her class to visit a bakery, she may advise them to have their mothers take them after school, or she may take the bakery committee herself after school hours. They may then tell the story of their visit to the remainder of the group. The following story is suggestive of what the teacher may tell, describing her visit:

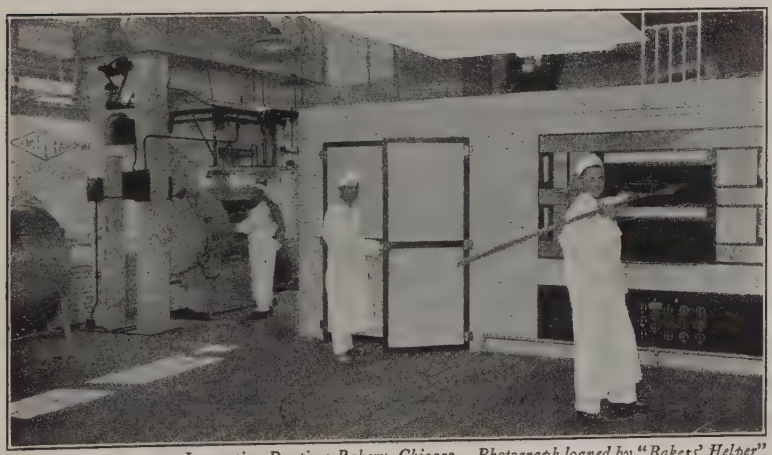
A DESCRIPTION OF THE BAKERY

A bakery is one of our important stores, isn't it? How many of you buy bread for mother at the bakery? How

many buy other kinds of bakery goods? Yes, Mary says she buys doughnuts, John, rolls, and Natalie, coffee cake. It is wonderful to have a place where all these foods are baked so that mother won't have to make them.

Yesterday, when the bakery committee and I went into Mann's Bakery, my first thought was, "How clean it is." Everything was in order, that is, everything that was used seemed to be placed where it was most likely to be needed. The tables were clean and shining. The workers wore clean white aprons and caps so that everywhere we saw freshness and cleanliness.

In this bakery they begin to mix the bread at about seven o'clock in the morning. They first put the right proportion of flour, milk, sugar, yeast, and salt into a large mixer. How many of your mothers bake bread? John, can you show us about how large the mixer is? Well, the mixer that the baker uses is much larger than that because he puts in at least a half-barrel of flour at one time and many large bakeries use even more in one mixer. This mixer is run by an electric motor and inside are two long knives which go round and round in opposite directions, so that they thoroughly mix the ingredients—that is, the flour, milk, sugar, yeast, and salt—into dough. It takes about half an hour to mix the dough well. Then it is removed



Innovation Daytime Bakery, Chicago. Photograph loaned by "Bakers' Helper"

This bakery interior shows the big mixer at the left, the warm room where the dough is left to rise, in the center, and the electric oven at the right

from the mixer and put into large troughs to rise. The dough is allowed to rise three times and each time after it has risen it is kneaded on these big kneading boards. The room is kept very warm so that it will rise easily.

Now the dough is taken from the troughs and put on large pine tables and there it is molded by the men into loaves of bread. Each loaf is put into an individual baking pan. The pans are then set in wooden trays, placed one tray on top of another. Here the bread is allowed to rise again before it is put into the ovens.

The oven is a very large structure and it reminded me of a furnace. From one side it gets its fuel and on the other is the place where the loaves are placed. Sometimes the fuel is coal or wood, sometimes gas, and some very large bakeries use electric ovens. The oven is higher than a man and the inside is bricked on all sides so that it gets hot and stays at about the same temperature for baking the bread. When the pans of dough are ready to be put into the oven, the bakers place them in long-handled shovels and push them back into the long oven. The bread is baked for about an hour until it is a beautiful golden brown, and then the long-handled shovels are used to take out the loaves of bread. My! it smelled so good when the baker took it out that I would have liked some to eat.

The loaves are immediately turned out of the pans so that the bread will not steam, and are placed on wire racks to cool. They are now ready to take their places out in the glass cases in the salesroom, or to be placed in the wagon to be delivered to people. It takes over half a day to make a batch of bread.

A Visit to the Bank. When the bank committee reported, a very creditable bank building made of paper was shown, with a large placard reading "First National Bank" placed above it. "What will you show on the inside?" asked the teacher. "Two windows," responded one of the committee. "What are these windows for?" was the next question, and when the committee seemed vague about the use of the two windows one of the class said, "You had better go to the First National Bank and find out." This child had already found out that the way to be sure about things is to go and see them. The next day the bank committee was asked to

report. One of the committee said, "I asked my father about those windows and he said one window is the place to get money out and the other window is to put money in the bank for the bank to keep for you." Another child added, "I know that, because my daddy makes me put money in my savings account. That is what it is called when you save your money."

The next day another report from the bank committee, the members of which had gone to the bank, stated that over one window was the word "Paying" and over the other "Receiving." The committee had been informed what these meant, and in turn the words were explained to the class. This explanation was easier to make because of the discussion of the day before. They then went ahead with the inside of the bank, showing the two windows with "Paying" and "Receiving" over them.

Other Excursions. Other excursions were made to the drug store to get ideas for the equipment. The children got suggestions for furnishing with counters, tables, and stools. A trip was also taken to the public library and to the post office.

DESCRIPTION OF BUILDINGS

Church. The church was made of heavy cardboard and large blocks. It was modeled after a church in the neighborhood. It had stained glass windows made of tissue paper painted with water colors.

Houses. Most of the houses were made from orange crates set two high with spaces left for windows and doors. They were covered on the outside with heavy construction paper and papered on the inside with wall paper designed by the children. The subject of wall-paper making is discussed in the department on Industrial Studies (Vol. III, Chap. II).

Another type of house was made of heavy construction paper.

Grocery Store. The grocery store was made of orange crates papered on the outside with tan paper. (Wrapping

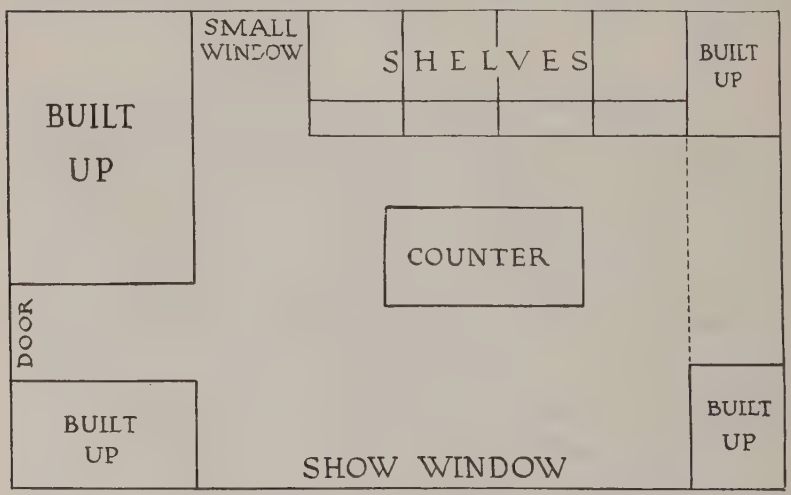
paper may be used.) It was stocked with various fruits and vegetables made of clay and painted, with empty food boxes and cans brought from home, and with baskets and bags which the children made. There was a counter with money drawers that contained money made by the children.

Banks. One bank was made of heavy construction paper, another of orange crates, and still another of blocks.

Dairy. This was made of fruit crates.

LOCATION OF PROJECT IN THE ROOM

As the children finished their buildings they began to assemble them in one corner of the room. On one side they placed all the buildings of a business nature and on the other side the houses, placing them as they had previously decided to in planning the city. Some teachers find that it is easier for the children to work if the buildings are on a platform slightly above the floor and about three feet wide. If the



So much interest was taken by the children in planning the grocery that it became a separate project, carefully worked out. Here is the floor plan of their grocery store

teacher has no way of providing a platform, she may use fruit boxes, sawing them off and making them all the same height. Some teachers who have no floor space in the schoolroom use the sand table for the buildings. To use a sand table is better than to have no project at all, but it is not so good as the floor-space plan for two reasons: first, the floor plan admits of larger buildings; second, the floor project can be played with—that is, it affords opportunities for dramatization after it is complete. The small project has value only so long as the children are constructing it.

DISCUSSION CONCERNING STREETS

One day after many of the buildings had been placed in their respective places and the representation had begun to look like a little community one of the children called out, "Say, I think we need some streets for our town! Every town has streets, and you can't tell that there are any streets in our town at all." The children were chagrined that they had been so forgetful of streets and agreed heartily with the suggestion. The teacher asked, "What are the things that we should make for our streets to make them look like real ones?" This was the list: street lights, street signs, mail boxes, sidewalks, automobiles, and trucks.

Since most of the buildings were finished, all the children who wished were allowed to experiment in making any of the objects named. The class discussions helped the children to gain ideas for improving their objects. For example, the first street lights were unsatisfactory because the standards were posts with clay around them and the clay kept crumbling away from the posts. Then the teacher gave them plasticine and this "stuck," so it proved to be a great improvement. The first people for the streets were made of clay and were very clumsy, as the children soon realized. So, since the stores were made of paper, they decided to have people made of paper.

"What reason can you give for having your streets well

lighted?" asked the teacher. The following reasons were given:

1. A well-lighted street is much safer than a dark one.
2. There is less danger of accidents with automobiles in a well-lighted street.
3. Lights help policemen to do their work.
4. The fire department can work better on well-lighted streets.
5. A street is more attractive when it is well lighted. (The children spoke of the beauty of clusters of electric lights.)
6. Lights help the storekeepers because people would rather shop on a well-lighted street than on a dark one.

After the children had discussed the benefits of a well-lighted street, they composed this composition for their Town Book:

> We need 24 lights for our streets.
> Lights make a street safer.
> Lights make a street more attractive.
> Lights help policemen and firemen do their work.
> Lights help storekeepers.

Another composition was composed about the streets:

> We have mail boxes on our streets.
> They are made of green paper.
> We have sidewalks on our streets.
> They are made of white paper.
> We have men, women, and children on our streets.

RELATION OF COMMUNITY LIFE TO OTHER SUBJECTS

Reading. There are many ways in which the study of community life furthers an active interest in reading. The children are interested in reading the signs on the buildings in the community and in their play community. They read the explanatory sentences under the pictures they collect and under the pictures they draw. They read the compositions which have been composed by the class and any material

selected or adapted by the teacher which relates to community life.

Oral Composition. Such points are discussed as things needed for constructing the town; why each building is needed; and how it will be made and where placed. The lay-out of the streets is planned orally, the items that are needed for these streets are discussed, as well as the reason for having them well lighted, etc. The various trips are described by the committees for the benefit of the rest of the class, and any other point of interest regarding the study and construction work is well talked over before any action is taken. Thus the entire class receives practice in composing orally, with better results because the subjects on which they are talking are a part of their everyday life in which they are taking an active interest.

Group Compositions. The following are typical of group compositions concerning different phases of life in this particular community.

We go to the stores almost every day.
We go to the grocery store.
We go to the drug store.
We go to the dry goods store.

We go to the grocery store.
We buy fruit.
We buy vegetables.
We buy meats.

We visited a bakery.
We saw the big oven.
We saw the baker mixing the bread.
He had on a white suit.
Everything was clean.
We buy bread at the bakery.

We visited the library.
We saw many books.
We made a library for our town.

We buy medicine at the drug store.
Sometimes we buy ice cream sodas.
Mother buys face powder there.

The following compositions are typical of those from another group:

OUR STREET

Our school is on May Street.
We have a drug store, oil station, and bakery.
We have a tailor shop and real estate office on our street.
We have a shoe store, ten-cent store, hardware store, and meat market, too.

We made our street on the sand table.
We made all the buildings.
We put signs on them.
We have a policeman on the corner to take care of the people.

We played the drug store part today.
Billy was the drug clerk.
You can get medicine at the drug store.
You can get candy and ice cream, too.
We buy pencils and books for school there.

We went to the tailor shop.
We saw big rolls of cloth that were used for suits.
We saw the big iron.
The tailor called it a goose.

OUR BAKERY

We built a bakery.
Before we built it we visited Mr. Land.
He showed us the big pans for bread.
He showed us the ovens.
He told us he baked at night.
Everything was clean.

OUR HARDWARE STORE

We made a hardware store.
We sold garden things.
We sold kitchen things like kettles and pans.
You can buy stoves at a hardware store.

OUR GAS STATION

The gas station was hard to make.
We buy gasoline at gas stations.
You can get air at gas stations.

There is a real estate office in our street.
Men find houses to rent at the real estate office.
They buy houses, too.
We did not make a real estate office.

OUR MEAT MARKET

The meat market is on our street.
They sell bologna there.
They sell bacon, ham, and chickens, too.
Cow meat is beef.
Pig meat is pork.
Sheep meat is mutton.

TEN-CENT STORE

You can buy all kinds of things at the ten-cent store.
We got the bells for our orchestra there.
We got candy there, too.
There are many toys there, too.

ART. The study of community life furnishes the children with subjects for their drawing work that are of immediate interest to them and result in better work than is done when the subject is not of present concern. They draw such features of this study as the buildings and the activities of people, as, for instance, the milkman, groceryman, and fireman. Posters for the grocery, articles bought at the different stores, pictures to illustrate the poems read in connection with this study—all of these may be used to tie up the subject of community life with the subject of art.

MAKING OF COMMUNITY LIFE BOOKS. The children may wish to make books in which to place their pictures and compositions made in the community life study. The covers may be of the colored construction paper 9 inches by 12 inches and may have *Our Street*, or *Our Town*, or *Our City* printed at the top by the child or by the teacher, and the child's name at the bottom of his own book. The child may draw on the cover some picture indicative of the content, or he may cut suitable pictures from magazines. In the books are included such items as the pictures drawn by the children, free-hand cuttings, and pictures collected by the

children. Certain pages may show by pictures collected what we buy at the grocery, what we buy at the bakery, what we buy at the drug store, dry goods store, etc. The compositions made by the children may be kept in these books and the poems learned and enjoyed may be copied and inserted.

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CHAPTER FOUR

THE STUDY OF FARM LIFE

THE study of Farm Life is for the child a natural outgrowth of the study of Community Life. We may even lead from the study of the Home to Farm Life. Through activities connected with the home and community, the children have become interested in people and things around them. In the Community project they become interested in the grocer and the foods which he furnishes for the table. They realize that others besides those in their immediate environment contribute to their welfare and happiness.

The farm is one very attractive phase of home life, the experiences of which may be understood and participated in especially by those children who live on farms or who have visited on farms. The children living in towns near rural districts have sufficient background concerning this type of experience also to appreciate the study. To these children, therefore, the activities connected with the farm open up a wonderful area of possibilities. For children in the crowded city district who have no opportunity of even a day's glimpse into such surroundings the topic is wholly unsuitable.

Children living in a community such as in the neighborhood of Hull House in Chicago have no basis for understanding or appreciating the activities, foods, or animals on a farm. These children have usually had no experience with growing grains, with cows, pigs, or with any of the various occupations on a farm. For instance, the story of the different steps in the milk supply would mean nothing to them because they have never seen cows. For children living in such a district, the story of the food supply should be confined to what lies within the range of their experience and interests. They know food from the markets, groceries, and fruit stores in their neighborhood. During the first and second

grades we can use these experiences as a basis, and later on can take them to the real source of their supply, the farm.

Therefore the topic of Farm Life in the first or second grade should be taken up with those children who have had the farm within their range of experience, whether by living on a farm, visiting on one, or living in small or medium-sized towns near rural communities. In smaller cities not too far from the outlying farm district, there is the possibility of frequent excursions to the farm.

It has been said that the aim of teaching community life in the primary grades is to socialize the child by making him more intelligent and hence more appreciative of his surroundings. This intelligence and appreciation make for better citizenship. The food supply involves one of the biggest and most far-reaching problems of our modern industrial life. It is so significant and so far-reaching that unless we have some degree of knowledge concerning it we fall short in appreciating other problems of present-day living.

Children as well as adults have a tendency to accept their food as a matter of course. Even rural children living in the midst of farm activities are often as unappreciative as city children. In taking up this study with children in the rural community, we should begin by noticing the food as it is on the farm. Then it can be taken through the successive stages until it reaches the city and thus country children become acquainted with the manner in which farm products serve thousands of people in the city. They find that the people of the towns and cities owe their existence to the products which are a result of the activities carried on on the farm.

OBJECTIVES

The study of Farm Life has as its objectives many factors other than that of merely acquainting the child with farm methods. Such a study in its relation to his daily life helps him to sense the value of one person's labor to the rest of the community and so brings him to a realization of his own

responsibility to other people. It helps him to gain some idea of the labor involved in planting, cultivating, harvesting, and storing fruits, vegetables, and grains; to know the use of farm animals; and to recognize his own and other people's dependence upon the farm as a source of food supply. He gains an appreciation of the labor involved not only in the actual growing of food but also in its transportation from the farm to the city, all of which results in helping him to gain a very real appreciation of the dignity of labor.

FORMS OF APPROACH

PLAY MEALS SERVED IN PLAYHOUSE. After the study of Home Life has been fully developed, the approach to the study of Farm Life may be made through the tea-parties or play meals served in the playhouse. The question comes up as to what the children shall serve, and where they shall buy the food. "At the grocery; that is where Mother buys our food," the children will say. "Where does the grocer get the vegetables, fruits, and meats to sell?" the teacher may ask. With this as a beginning, a study of the activities of farm life follows.

CONSTRUCTION IN THE FREE PLAY PERIOD. During a free play period in one class a child made a barn. This seemed to interest the children more than any other piece of construction. There were so many suggestions as to how the barn might be improved that the teacher said, "What you are saying would be clearer if we could see a barn made like that."

As a result everyone wanted to make a barn and while they were discussing the kind of material needed one pupil said, "We ought to have a house for the people who own the barn to live in."

This was the point of departure for real farm work, since the discussion up to this point had been merely on the construction of a barn.

DISCUSSION OF FOODS EATEN FOR BREAKFAST. The teacher of another class asked the children what they had for break-

fast and at their dictation wrote on the blackboard a list, as: muffins, toast, fruit, breakfast-food, milk, eggs, bacon. The teacher then asked them to select from this list the foods that came from a farm.

Approach by Farm Pictures. One teacher placed on the bulletin board an attractive colored picture of a little boy holding some apples. The picture was mounted on a piece of tagboard. The children noticed the picture when they came into the room and made such remarks as, "My, those apples look good!" "I guess they are Jonathans." "We get nice red apples like that from my Uncle's farm." When the community life period came the teacher gave the children an opportunity to talk freely about the picture. She stimulated them by asking questions: "Why do you like the picture? Where do you think the little boy got the apples? Would you like to suggest a name for the little boy? Perhaps we could print a sentence underneath the picture to tell something about Billy. What shall we say?" After hearing several sentences she asked the class which sentence they would like to see printed. The sentence agreed upon was "Billy has some apples."

The next day the chart appeared on the bulletin board with "Billy has some apples," printed under the picture and the sentence was then read by the class. During successive days new pictures appeared on the bulletin board showing Billy doing different things, each of which bore some relationship to the farm. One picture showed a little boy feeding chickens and under it the teacher had printed, "Billy is feeding the chickens." The discussion and reading of these pictures soon led into a conversation of what grows on the farm, how the farmer plants crops and trees, and cares for them, what animals live on the farm, and their use to the farmer.

Another Type of Approach by Pictures.[1] There were about a dozen mounted pictures hung across the front board which showed cows and horses on the farm. A label across

[1]These suggestions are taken from a lesson taught by Miss Nina Jacob, of the University Elementary School, The University of Chicago.

the top read, "Farm Animals." The teacher allowed the children to tell of their farm experiences and then the following discussion took place.

Teacher: You have all told about the good times you have had on farms. Now I want you to imagine that we are going on a visit to a farm. How shall we go?"

Children: On the train. In a car. On the street car.

Teacher: As we get near the farm what are some of the things that you will see?

Children: We would recognize trees. We would know the house. We might see the name of the farm.

Teacher: Where might you see the name?

A pupil: On the barn.

Teacher: Anywhere else?

A pupil: On the mail box.

Teacher: Who are the people who live on the farm?

Children: The farmer, the farmer's wife and children.

Teacher: Is there ever anyone else?

A pupil: Yes, the farmer's helpers.

Teacher: Suppose we got there early in the morning. What would you like to do first?

Children: Ride horseback. See the bunnies. Play in the haystack. Do all the things that the farmer does.

Teacher: What are some of the things that the farmer does?

Children: Keeps up the farm. Milks the cows. Cuts the grass. Hoes and digs. Gathers the vegetables.

Teacher: Do any of you have any magazines at home that show the things that the farmer does? If you have, and Mother will let you, cut them out and bring them so that we all may see them. Have you noticed the pictures on the board? What does the name say?

THE FARM LIFE PROJECT

ANY one of the approaches described may be used to initiate the subject. The teacher may combine several, but whatever approach she uses she must remember to begin by

Courtesy, the International Harvester Co.

The boxes on this grain drill carry the seed, which falls through tubes into the furrows. The chain and rings at the rear drag the earth back into place, covering the seed

building upon what the children already know about the farm. She asks them to tell about any visit, or any time spent on farms. Whether they live on farms or have visited farms, they tell about their experiences. In the former case, they should respond even more eagerly than in the latter. Some have helped to milk cows, rake hay, feed chickens, and do other tasks. They describe the activities in which they have participated, or have seen others participate.

As each child contributes his experiences he is enlarging the knowledge that the whole group has about the farm. More important, however, he is building up an interest about this topic. Perhaps one child's story leads another member of the class to recall an experience which he had forgotten. The pupils are bringing together a host of material around one central topic. This material is unclassified and unorganized but from the very fact that all thoughts are brought to bear on one subject there will develop a certain organization. In

this way the children's interests concerning the farm are gathered together.

DRAMATIZATION OF ACTIVITIES

The next step may be a game that brings in dramatization of activities on the farm. One child is chosen to act out something he has helped to do on the farm or has seen done on the farm. The class guesses what he is doing. The one who guesses correctly has the next turn to dramatize. Not all the dramatizations may arise from actual farm experiences. In a group where the pupils were dramatizing farm activities, one child at the beginning of the discussion had said that he had not been on a farm. The teacher was surprised when he asked to dramatize. He straightway went through the motions of sowing seed by hand. Astonished that such old-fashioned methods persisted, the teacher asked:

"Paul, where did you see people planting grain in that way?"

"Well," answered Paul, "I didn't really see this on a farm, but I saw it in a picture show."

The teacher readily saw that Paul was confronted with a situation in which he was unable to participate. The others in the class had been on farms; he had not. He was a child who liked to enter into whatever was going on, so he searched his mind for experiences, real or secondhand, to contribute. Finally he remembered what he had seen at a movie and brought it forth. The teacher took this opportunity of saying to the class:

"People on small farms sometimes plant wheat the way Paul showed you. But on large wheat farms the farmer never could finish this work if he tried to plant the seed all by hand. So he uses a machine called a grain drill. Do you see these little boxes in the picture of the grain drill? The seed is kept in these little boxes and falls through these little tubes down into the furrows which the machine makes."

The picture of a grain drill appears on page 468.

THE USE OF PICTURES

There is no other subject in the study of community life that affords such a variety of attractive colored pictures at a minimum cost as does that of farm life. The teacher who plans to carry out this study should take pains to collect from the various sources listed on page 508 as many pictures as possible which illustrate activities on the farm, such as planting, cultivation, harvesting, feeding and general care of animals, and pictures of fruits, vegetables, and animals on the farm. She should try to collect many pictures that show children doing different things related to the farm. She may begin the study with pictures as suggested on page 466.

Whatever approach the teacher uses she should have attractive pictures of the farm and farm life mounted and hanging in the room. She should encourage the pupils to collect pictures to use in their farm books and to show to the class. At the beginning of the study she should place in the room pictures illustrating the simpler phases of farm life. It would be unwise to call attention to all of them at this period. They are used as a means of arousing interest in the subject and as a means of presenting questions to the pupils. A child who has no great interest in the subject at first may develop an interest because of the attractive pictures featuring children in various activities. There are so many different centers of interest in this study that it is not difficult for children to find some that appeal to them. Perhaps certain children will bring pictures that they think are especially pertinent to the subject and may say:

"I found a picture of a farmhouse. Can't we put this picture up and call it 'our farmhouse'?"

The teacher who made the approach to the study of the farm through an imaginary trip to the farm had asked the children to bring farm pictures. She allowed them to show their pictures. After a picture of a farmhouse and outbuildings had been shown to the class by one of the group, she said to them, "You remember yesterday we were going to a

farm. What would you like to call your farm?"

The class decided upon the name "Wildwood Farm."

"Perhaps we should write a story about 'Wildwood Farm' so that we won't forget it," suggested the teacher.

As the pupils contributed the sentences, she wrote them upon the blackboard:

We have a farm.
It is Wildwood Farm.
It is a very large farm.
It is a lovely farm.

Several children took turns reading the story. The teacher told them it would be printed on a chart for the next lesson.

MAKING A PLAN FOR THE FARM

The following discussion took place regarding a plan for the project:

Teacher: When we were talking about farms yesterday what did we decide to do?

Children: Make a plan.

Courtesy, the International Harvester Co.

This picture may be shown as a fine example of a farm home, beautiful in design and built for room and comfort

Teacher: That is what we are going to do this morning. What are some of the things which you will want to show on your plan?

Children: A path, the house, lawn, barn, windmill, chicken coop, fields, pastures, fences, gates, mail box, and an ice house.

Teacher: What will you use for the path?

A child: A line.

Teacher: What would you use for the house and barn?

Children: Squares.

Teacher: What would you use for the windmill?

A child: A triangle.

Teacher: Think of all the things necessary for your farm and when the plans are finished we shall hang them up and decide on the best one. Then what will be the next step?

A child: To get boxes.

Teacher: No, the next thing we shall do is to put the plan on the floor.

Each child was given a large sheet of manila paper and the remainder of that lesson was spent in thinking and drawing the plans. Most of the children were planning houses, barns, silos, fences, windmills, chicken coops, pastures, and fields.

The next lesson was taken up with a discussion of the plans. The children decided that they did not care to use any one plan as it was, but wished to take suggestions from all the plans and then make a general plan. With the help of the teacher they decided to keep these things in mind:

Location of mail box.

Location and size of fields.

Separation of fields by fences.

Location of barn in relation to fields, house, and drainage.

Location of house (usually nearest to road).

Location of windmill.

The teacher then said, "After we have made our plan what are some of the things needed for our farm?"

The following responses were given:

cows	wagons
windmill	walks

orchard
fences
fields
haystack
horses
roads
mail box
cornfield
wheatfield
watering trough

Together they worked out a general plan which they drew on the blackboard, the teacher helping them to designate things when necessary. This was a composite plan, each building being discussed by the class and then placed by one child where the class desired.

Organization of Material. The preceding responses were without organization. This was only natural, for if there had been any attempt at getting responses in an organized fashion the children would not have been so spontaneous. The teacher now began to work for classification, saying, "Name the farm animals we shall need."

The children named turkeys, pigs, cows, horses, donkey, sheep, pony, goat, chickens, dog, ducks, and geese.

"Name the farm buildings we shall need," the teacher next said. The answers were house, barn, chicken house, ice house, corn crib, pigpen, and sheds for machinery.

"What shall we plant on our farm?" asked the teacher. The following products were listed: lettuce, corn, tomatoes, wheat, radishes, onions, turnips, potatoes, apples, peaches, and cherries.

The teacher wrote the different lists on the board, classifying them as far as possible without saying anything to the children—putting the buildings in one classification, the animals in another, and the products in another. The next day the printed chart appeared as follows:

BUILDINGS ON OUR FARM

house
barn
garage
silo
chicken house
windmill
corn crib
sheep shed
pigpen

ANIMALS		THINGS TO GROW	
cows	ducks	corn	turnips
pigs	geese	wheat	potatoes
horses	chickens	lettuce	apples
sheep	turkeys	radishes	peaches
dog		onions	cherries

WHAT TYPE OF CONSTRUCTION SHALL BE USED?

This study may be developed in two ways—on the floor or on a sand table. The advantages and disadvantages of each of these types of construction are discussed in detail in the chapter on the study of Community Life, page 456.

If a sand table is used it is advisable to secure as large a one as possible and preferably a zinc-lined table so that in developing a farm project the seeds may be actually planted. The number of buildings in the sand-table project should be more or less limited so that the ones which are chosen to be represented may be larger.

SUGGESTED MATERIALS. Since the floor project calls for larger construction than the sand-table project, different materials will be used for some of the objects. Suggestions are therefore given for materials that may be used in each type of construction.

FLOOR PROJECT

Buildings. Blocks, wooden or pasteboard boxes, or construction paper may be used. A toy garage may be used or the garage may be constructed of the same materials as the other buildings.

Road. Use brown wrapping paper or gray construction paper fastened to the floor with thumb tacks.

Pasture. Use brown wrapping paper painted green or green construction paper held down with thumb tacks.

Fence. The fence may be made of clothespins and string held to the floor with green plasticine, or a paper fence may be cut out of tagboard or manila or wrapping paper. One

might use nails with knotted twine to represent barbed wire.

Cornfield. Raffia may be made into corn shocks.

Vegetables and fruits. These may be modeled from ordinary clay and painted or shellacked, or they may be modeled from colored plasticine. For instance, yellow plasticine may be used to make pumpkins to be placed in the cornfield or ordinary clay may be used and painted a bright orange color.

Orchard. Use twigs of trees with tissue paper blossoms or fruit.

Farmer and family. Dolls may be used.

Animals. The animals may be made of clay, or cut from tagboard, or toy animals may be brought from home by the children.

SAND-TABLE PROJECT

Real soil may be used.

Buildings. Cardboard, cardboard boxes, or construction paper furnish good material for the buildings.

Lawn. Plant grass seed.

Pasture. Plant clover or alfalfa.

Vegetable garden. Lettuce and radishes may be planted.

Grain. Corn and wheat may be planted. They grow very quickly and may become so tall that they fall over, but when this happens they may be pulled up and another crop of the same may be planted.

Orchard. Twigs with tissue paper blossoms or fruit may be stuck into the ground. In spring get twigs of blossoming fruit trees and place in soil.

Duck pond. Make the border of the pond of plasticine and fill with water.

Road. Sprinkle sand or fine gravel on the soil. Clay blocks may be used to represent macadam.

Telephone poles. Twigs may be collected by the children, broken off at a certain length, and stuck in the soil. Coarse thread may be used to represent the wires connecting them.

Fences. Clay posts may be used to represent concrete and picture wire or twine may be used for wire.

CONSTRUCTION AND PLACING OF BUILDINGS

BEGINNINGS OF THE BUILDINGS. If the teacher wishes to use boxes for the buildings she may say, as Miss Reiss of the Chicago public schools said:

"This is our time for work. You saw some boxes on the floor when you came to school. Yesterday you made plans for our farm, so today I hope that you will begin work and make something for the farm. I got four boxes so that four people may begin working with the wood. The rest of you may decide on something to make with the construction paper. Those who wish may make pictures for their Farm Books. When there are so many who want to build I may have to choose four children who can work together and not bother other children. I shall choose Barbara, Betty, John, and George to work today with wood. There will be more boxes later for others. The tools are on the work bench."

Courtesy, the International Harvester Co.

The silo is a valuable addition to any farm for it preserves fresh fodder for winter use. Corn is usually kept in silos

Courtesy, the International Harvester Co.

A model cow barn with individual stalls for cattle has many other modern features for improved ventilation and cleanliness

The four children chosen began to make houses and barns of wood while some of the others began to make buildings out of construction paper, and others set to work to draw pictures for their Farm Books. As the children's buildings were completed they were voted upon and the best ones were chosen.

Placing the Farm in the Schoolroom. This particular group of children decided to put the farm along one side of the room. As the buildings were voted upon the ones chosen were placed in their respective positions according to the plan which was printed upon a tagboard chart.

DISCUSSION OF BUILDINGS

As the buildings needed are mentioned their uses on the farm may be discussed. This discussion may take place before construction, while the buildings are in the process of construction, or while they are being placed in position on the farm. Usually the choice of buildings to be constructed depends upon the need for them. Since they are to be a part of their farm, the children must know their uses.

"Why do we need a barn?" asked the teacher. Some of the answers given by the children were: "To keep the hay in,"

"To keep the corn in," "To keep the horses out of the rain," "To keep the cows out of the cold and rain."

The members of one class took a trip to see a farm and upon their return dictated these compositions, which were first written on the board and then printed on charts with appropriate pictures. Afterwards they were printed in the school print shop and each child was given a copy for his Farm Book. These are the sentences:

We went to Mr. Vaughn's farm.
We saw a big red barn.
In the loft was a great pile of hay.
There were bins of oats.
At one end we saw horses and cows.
The farmer said, "I use this barn all the time."
The silo was near the barn.
It was tall and round and red.
The farmer put green corn in the silo.
The corn was cut up, stalks and all.
Then it was feed for the cattle.
It was feed for the pigs.
They grow fat on it.

The teacher may ask, "Why does the farmer keep cows?" receiving the answer, "The farmer milks them." She may then show to the class the picture of a model cow barn and speak of the individual stalls and the sanitary flushing of the floor. The children are told that there is something else very important that has to do with cattle and which we will have to build for our farm. Usually someone says, "The silo." They look at pictures of silos and are told that cattle as well as people like food made from corn, so the farmer cuts the stalks of corn when they are green and stores them away for the cattle to eat during the winter when there is no fresh corn. He cuts up ears and stalks together and puts them into tall bins that are air tight and these bins are called silos. "Of what are they made?" "Yes, some of them are made of wood, some are made of concrete, and some are made of tile. We call corn that is cut up and kept in the silo, 'silage,' and it is used in the fall, winter, and early spring to feed the

cattle." (Pictures of a silo and of a model cow barn will be found on pp. 476 and 477, respectively.)

The house is a very important building for it is the place where the farmer, his wife, and children live. The pupils may be encouraged to bring in pictures of houses. The idea is not to attempt to teach them architecture, but to teach them to appreciate the better types of country homes. The children talk about the kind of home they would like to have on their farm. Even though one committee is to build it, it belongs to the whole group, for the farm project is an undertaking of the whole class. In other words it is "Our Farm." They may wish their house to have a porch so that the farmer, his wife, and children may sit out there on summer evenings and look out over the orchard. Their house must have plenty of windows. Why? So that there will be plenty of air and light.

Children construct more skillfully and intelligently if they work with a clear knowledge of the building itself and the place which it is to occupy in relation to the whole project. As an illustration of this point, the writer recalls the instance of one group of children in a first grade who were to construct the sheep shed for the farm. They had discussed the use of the sheep shed but seemed to have only vague ideas concerning the appearance when it came to drawing a picture of it. Several in the group had seen one but seemed unable to make the picture clear to the others. One child began to describe a sheep shed in the neighborhood and immediately another suggested that they go to see it. Accordingly the next day the group made a trip to the sheep shed and noticed the shape, color, and the slats along one side. Then, having a definite idea of the use and appearance of the building, the pupils made a representation in the construction period. The story they made about the sheep shed was:

We went to Mr. Smith's farm.
We went to see the sheep shed.
Then we made one for our farm.
We made it of brown paper.

DISCUSSION OF ANIMALS

From the beginning of the project the children bring in toy animals of all descriptions: horses, cows, pigs, chickens, dogs, cats, and sheep. The teacher may say:

"You have brought in a good many toy animals for our farm. Why do we need them? Of what use are they to the farmer? Who can name one animal that we must have on our farm and tell its use to the farmer?" Such answers as these may be given:

The horses plow the ground.
The horses pull loads.
The horses give people rides.
The dog watches the sheep.
The sheep give us wool.
We make warm clothes from the wool.
Chickens lay eggs.
The cow gives us milk.

If the teacher wishes to use the last sentence as an approach to the study of milk she may say to the class, "If the farmer has more milk than he needs, what does he do with it?" And the answer may be, "He sells it."

From this introduction the children follow milk from the time of milking to the point where it is delivered in bottles to the people in the city. They draw pictures showing the different steps: milking the cows, straining and pouring the milk into cans, the big cans at the station waiting for the train to take them to the city, the transportation to the city, the dairy, and last a picture showing the milk in bottles being delivered to city people. These are compositions composed by different groups of children about the farm animals:

SHEEP

Sheep live on farms.
They give us wool.
We make clothes out of the wool.
Sheep give us meat.

We eat the meat.
It is called mutton.

THE COW

The cow gives us milk.
We drink the milk.

THE HORSE

Horses live on the farm.
They work in the fields.
They pull loads for the farmer.
The farmer feeds them hay and oats.

CHICKENS

Chickens live on the farm.
They live in a chicken house.
They have a yard, too.
They eat corn.
They lay eggs for us.
They give us chicken for dinner.

DISCUSSION OF GRAIN AND PLANTING

If the teacher carries out the project on the sand table, there will be much benefit derived if it is lined with zinc so that the children can actually plant the grains and vegetables. Soil can be brought in from the garden or field and placed in the sand table. The children are told that on a real farm when the farmer gets ready to plant his grain, the ground is first plowed and then harrowed. Pictures of plows and harrows are shown to the children and they are told how the plow turns up the earth and how the harrow breaks up the large clods and smooths the soil. They are reminded that their farm is to be only a play farm so they must use their fingers to crush the lumps of earth fine and pretend they are using a plow and harrow.

"What grains shall we plant?" is the next question that presents itself. The teacher writes on the board the list as

the children give it. Oats, rye, barley, wheat, and corn are named. The emphasis is placed on not more than two, so the children are asked to name the two grains that people use the most. Wheat and corn are suggested. A committee of three children is appointed to mark off the sand roughly for the different parts of the project. At one end on a hill is to be the house. The barn is to be either back of the house or across the road. The different farm buildings, the orchard, the meadow, the vegetable garden, the flower garden, the duck pond, and the garage are designated. Sand is sprinkled on the road to give it a realistic appearance. The fences are placed around the fields and the next thing is to plant the grains. But before the children plant the grains they must know more about their use to us. So in talking about wheat the first question is, "What do we have that is made of wheat?" "Bread." "What else?" "Wheatena, shredded wheat biscuit, and lots of other breakfast foods." The pupils

Courtesy, the International Harvester Co.

With the old horse-drawn plow only one furrow can be turned at a time

Courtesy, the International Harvester Co.

A tractor draws the modern plow, and turns three or more furrows at one time, much more quickly than the old horse-drawn plow could turn one furrow

are asked if they would like to hear the story of wheat from the time it is planted until it is made into a loaf of bread. The teacher shows them a sheaf of wheat and some wheat seeds. The following story of wheat is told:

THE STORY OF WHEAT

You have told me that everybody eats bread. Since bread is usually made from wheat flour the farmers have to raise a great deal of wheat so that there will be enough bread for all the people. How many of you have ever seen wheat growing? It is a beautiful sight to see a field of waving grain. Some farmers have such small wheat fields that you could walk around a field in half an hour or less. Others have such large fields that it would take a much longer time to walk around them. On the large farms the farmer plows the soil with a tractor plow. He sits on this plow which is pulled by a tractor instead of by horses. Look at the picture of this plow. It turns three furrows at once. Some of the farmers on small farms use a single

plow drawn by one or two horses. This turns only one furrow at a time. After the land is plowed the farmer and his helpers use a harrow to make the soil smooth and fine.

There are two kinds of wheat—spring wheat and winter wheat. Spring wheat is planted after the frost is all out of the ground so it gets a rather late start. Winter wheat is planted in the fall. It starts to grow before the snow falls. When winter comes, the tops of this new wheat freeze off. The roots stay alive in the ground all winter protected by the snow. In the spring the winter wheat starts to grow before the spring wheat. Winter wheat and spring wheat make two different grades of flour. Sometimes farmers mix the two when they take them to the mill to be ground into flour, and sometimes they use them separately.

After the ground is harrowed it is ready for the seed to be planted. Do you think a farmer and his helpers could plant a very large wheat field by hand? No, I don't think they could because it would take so long. So they use a machine called a grain drill. This picture shows you the little boxes in which the seed is kept. You can also see the tubes through which the wheat seeds drop into the ground. Do you see these little spikes? They dig the hole in which the seed is to drop, and this dragging chain covers up the seed by smoothing the soil (see grain drill, p. 468).

The farmer knows that after the little seeds are safely

Courtesy, the International Harvester Co.

After the land is plowed the farmer uses a harrow to make the ground smooth and fine. This type, known as a disk harrow, is in common use

Courtesy, the International Harvester Co.

After the wheat is ripe the farmer uses a binder, a machine like the one shown here, which cuts the grain, lays it in bundles, and ties these bundles up

in the ground other things beside his work are necessary to make the little sprouts come up. What do you think has to help? Yes, the sun has to shine and the rain has to fall to make the ground warm and soft and moist. Pretty soon the little green sprouts poke through the ground and they grow higher and higher. The sun shines hot on the wheat fields. Then after a little while what do you think happens? The wheat turns yellow. Grains of wheat have formed on the stalks. Now it is ripe and ready to be cut. The farmer needs many men to help him with the harvesting, as it is called. This is a busy time. He needs a big machine called a binder. Here is the picture. This cuts the wheat, lays the stalks even, and ties up the bundles of wheat, which are called sheaves. Men follow and stack the bundles so that if it rains the water will run off.

After the wheat stalk is ripe and dry it is called straw. This straw is sometimes used for feed or bedding for cows. Sometimes the farmer sells it and it is used to make paper. If a farmer does not keep any cattle or other farm animals he does not need the straw. Then instead of the binder he may use a machine called a header to cut the grain. Here is a picture of one. This machine just cuts the heads off the grain. It leaves the stalks standing in the fields. The

Courtesy, the International Harvester Co.

When a farmer keeps no cattle to use the straw, he sometimes uses a machine called a header. This cuts the heads from the grain, leaving the stalks standing

farmer usually burns the stalks if he has used a header to cut the grain.

After the wheat is cut, what do you think is done to it? The wheat seeds have to be taken out of the husks and separated from them. This is called threshing. It is done with a threshing machine. After the wheat is threshed the farmer sells it to men in cities who store it in great high buildings called elevators. Here is the picture of one of them. These buildings are made of brick or concrete or steel, so there will be as little danger as possible of the grain's burning. Now what happens to the wheat? That is right. It is sent to the mill to be made into flour which is sold to grocery stores and bakers. The baker makes the flour into the nice bread and rolls and cakes you like so well.

The teacher tells the story at least twice and then she asks such questions as these: "What is the first thing that the farmer does to the ground before he plants the seeds? Can you find the picture that tells what he does first? (Shows it to the class.) What does the farmer do next? Who can find the picture of the harrow? Who knows the next thing he does? Who can find the picture of the grain drill? What

helps the wheat to grow? What color is the wheat when it is ripe? What cuts the wheat? What is the next thing that is done? Where is the wheat stored in the cities? What does the mill do to it? Who buys the flour?"

After these questions the teacher asks for volunteers to tell the story. When all the pupils are familiar with the story of wheat she says, "I wonder if we can't write the story of wheat for our Farm Books that we are making. It is to be written by our whole class so you must all help. I will write it on the board as you give it to me. What does the farmer do to the ground?" Thus the beginning of the story is:

The farmer plows the ground.
The farmer harrows the ground.

"Who is ready to give the next?"

The farmer plants the seed.

"What does he plant it with? Give the whole sentence."

The farmer plants the seed with a grain drill.

A completed story of wheat appears on page 488.

Courtesy of Winnipeg Board of Trade

After the wheat is threshed it is stored in great buildings called elevators. These are usually made of fireproof material

THE STORY OF WHEAT

Written by the 1A and 1B Children

The farmer plows the ground.
The farmer harrows the ground.
The farmer plants the seed with a grain drill.
The rain falls on the ground.
The sun shines.
Then the little sprouts come up.
They grow very tall.
The sun shines hot on the wheat.
Then it gets ripe.
It is yellow.
The farmer cuts the wheat.
The farmer threshes the wheat with a threshing machine.
Then he puts it into sacks.
Then he puts the sacks of wheat into the wagons.
The wagons take the wheat to the train.
The train takes it to the miller.
The miller grinds it into flour.
The baker buys the flour.
He makes it into bread and rolls.

The writing of the story occupies approximately three periods of one-half hour each. Only a section is written at a time. When finished it is read from the blackboard by the children with the help of the teacher. It is then printed on tagboard and hung up for the class to read.

It is not necessary that corn be studied in such detail as wheat. The children are asked what things are made from corn. The answers usually given first are, "Corn bread, corn muffins, and corn cake." An exhibit of some of the corn products is then shown to them and they see that corn syrup, cornstarch, and corn flakes are also made from corn. They are told that the biggest use that the farmer has for corn is something that they had not thought of. "The farmer feeds it to his cattle and pigs. It is the best kind of food for them. You remember that we talked of how much the cattle like the silage, the cornstalks which the farmer stores away in the silo for the cattle in winter. Many people say that the corn comes in on the hoof. Now you understand what that means, don't you?" The teacher tells the story of corn very simply and after that the class writes a story for their Farm Books.

The climax of the study of wheat and corn is the actual planting of the grains. Now that the children are intelligent about the use and growth of the grains they can plant them with greater interest and with a greater meaning. The teacher tries to keep constantly before them the fact that in their sand-table work they are doing in a very small way what the world is doing in a big way. So when they use sticks to make their furrows the teacher says, "How does the farmer make furrows?" The children reply, "The farmer uses a plow."

When they drop the seed with their hands they are asked how the farmer would plant his seed, to which they reply, "The farmer would use a drill."

STUDY OF VEGETABLES AND FRUIT

After the grains are planted the vegetables are studied. The teacher makes a list on the board as the children name

all the vegetables that the farmer might plant. The list includes radishes, onions, lettuce, beets, beans, tomatoes, potatoes, cabbages, cauliflower, peas, and asparagus. From this they choose any two of the most common ones, radishes and lettuce for examples, for their farm. Seeds are sent for and the children are eager to know how to plant them and where. The teacher reads to them the directions for planting and they try to follow them in making their miniature vegetable garden.

They decide what trees the orchard shall have in it. To represent these they get twigs and stick them in the ground. They talk of the different ways that the farmer's wife preserves the fruit that is not eaten fresh. When they are asked how the farmer's wife keeps the apples, they frequently answer that she makes them into apple pie or apple dumplings. It is only after some discussion that they think of apple jelly, vinegar, and apple butter. They answer more readily that pears, peaches, and cherries are canned. Emphasis is placed on the fact that much of the fresh fruit is packed and sent to the cities. The steps involved from the harvesting of the fruit on the farm to the final distribution from the grocery stores and fruit markets in the city are traced.

ACTIVITIES OF THE FARMER'S FAMILY

This topic may arise the first day of the discussion and continue throughout the study. It is impossible to talk of the farm buildings, the farm animals, and the foodstuffs grown on the farm without mentioning the work of the farmer, his wife, and his helpers in connection with each of the topics.

The pupils described farm activities when they dramatized in the first lesson, and these touched upon the farmer's work and also the work of the farmer's wife. Through stories of plowing, planting, and caring for crops, they find out some of the occupations of the farmer and his wife. In planning the vegetable garden for their farm they discuss the things that

have to be done; the preparation of the ground, the planting, cultivation, harvesting, and storing of the vegetables. They discuss the activities related to fruit which, of course, brings in the work of the farmer's wife. The work of the farmer's wife is found to be housework, care of milk, canning and preserving fruit, canning of vegetables, care of chickens.

The teacher asks, "What can the farmer's children do to help?" The response is, "Feed the chickens, gather the eggs, gather the vegetables, pick the fruit, run errands, help Mother in the house, feed the cows and horses."

ACTIVITIES CONNECTED WITH THE FARM LIFE STUDY

MAKING BUTTER. Some had seen butter made from cream and some of the children had helped to make butter. When the discussion was taking place concerning the care of the milk by the farmer's wife, the class wished to make butter at school. Each child brought his own cream in a half-pint bottle. When it had stood long enough to be slightly sour, they shook the bottles until the butter came. The butter was then taken out and put into a bowl. Each child had a turn in working the buttermilk out of the butter and working the salt into it.

Sometimes the cream is put into a glass churn, and each child may turn it a certain length of time. An ordinary glass jar was used by a class and, as one child expressed it, "We each had five shakes." The butter made may be used at a luncheon to which the mothers are invited.

PREPARING A LUNCHEON.[1] As a culmination of the farm project in a second grade Miss Nina Jacob suggested that it would be nice if the mothers could see the farm now that it was completed. Finally it was arranged to invite them the Tuesday before Thanksgiving. The invitations to the mothers were written during the writing period.

[1]These suggestions are taken from a lesson taught by Miss Nina Jacob of the University Elementary School, The University of Chicago.

First the children talked over what they should serve. They wanted to make butter because they had had the story of butter. They wanted to serve bacon because they had pigs on the farm. They suggested spinach and potatoes because they grew in the garden, apple sauce because apples grew on the farm. The apple sauce was to be served with whipped cream for dessert. Pop corn was included because it was made from a grain on their farm.

They wished to make their own dishes, place cards, napkins, etc., o the week before the luncheon they were very busy. The dishes were made from different sizes of tagboard. They had to turn up the edges so that the food would stay in the plates. Each child made two large plates, two medium-sized plates, and two dessert plates. They decorated napkins and made candlesticks out of clay for the center of the table. For favors they made square boxes with pumpkins drawn and colored on one side of the box. These were filled with pop corn which the children had popped at home and brought to school.

The butter was made the day before. Each child brought two potatoes, two apples, a small bunch of spinach, and some bacon. They peeled the potatoes, cleaned the spinach, and washed, peeled, and cut up the apples. With the teacher's help they cooked the foods.

The tables that were used in the room instead of desks, were moved out and desks were brought in for the occasion so that each child could sit with his mother and wait on her. He brought both plates to the kitchen for serving. After the food was eaten, the candles on the desks were lighted and the children told their mothers about the food that was served at their party.

Making the Farm Books. At the beginning of the study the children began to bring to school pictures relating to the farm. These they cut out and pasted on yellow manila paper. Sometimes they wished to say something about the pictures. For instance, when they were talking about the animals on the farm and their use to the farmer, they brought to school

pictures of horses, sheep, cows, and dogs. They wished to put under the picture of horses, "Horses pull loads." The teacher had the sentence printed under the picture. Sometimes the sentences were used as writing lessons and after the children were able to write a sentence fairly legibly they were allowed to write it under the proper picture. Often the children drew pictures and either wrote the sentences under them or pasted on the printed copies.

Since they were accumulating pictures very fast, the teacher suggested that they each make a book in which to place all their pictures and stories. She asked the class what they wished to call the books. "Our Farm" was the answer. The teacher cut construction paper 9 by 12 inches, punched holes in each cover so that the manila paper would fit, and gave each child two brads to fasten the pages together. Cord may be used instead of brads if the teacher wishes. In the art period the children printed *Our Farm* and their names on the front cover and drew an appropriate picture—one indicative of the contents. Most of the children drew barns. (If the children are unable to print they may cut the letters and instead of drawing a picture they may find a suitable one in a magazine and paste it on the cover.) They put into their Farm Books the following:

1. Pictures.
   a. Pictures drawn by the children. In some cases they had explanatory sentences which the group decided upon.
   b. Pictures which the children collected from magazines and other sources.
   c. Pictures collected by the children and merely labeled, as farm animals, fruits, vegetables, scenes, activities.
   d. Paper cuttings of farm animals, fruits, vegetables, scenes, and activities.
2. Stories in printed or hectographed form, which the class composed about different phases of farm life.
3. Reading lessons which the teacher had adapted or collected and given to the class.

4. Diagrams of the farm.
5. Poems related to the farm with which the class had become familiar in the literature period, in printed form.

RELATION OF FARM LIFE TO OTHER SUBJECTS

If the study of farm life is taken up in the fall and there is a school garden, it is well to go to the garden to find what vegetables are there. These are brought into the schoolroom and each vegetable is labeled with a word card having on it the printed name of that particular vegetable. The children look at the vegetable and associate the printed word with the vegetable itself. Then the labels are taken off. Different games are played. For example, the teacher holds up a word card having "tomato" on it. She calls on a child to bring her the vegetable indicated by the word. The word cards may be placed on the blackboard ledge. She calls on some pupil to choose the name of a vegetable which he knows. He whispers this to the teacher and if it is correct he chooses someone to bring the vegetable corresponding to the card which he holds. Then the game is reversed. The vegetable or fruit is held up and the children must find on the blackboard ledge the corresponding word card.

To complete their list of vegetables that grow on the farm the children make an excursion to a grocery store. Before they start the teacher gives to each child a printed list of the vegetables which they have learned to recognize and which they expect to find at the grocery. When they arrive, as they recognize each vegetable and are able to find the corresponding word in the list they check it off.

Fruits may be classified as to whether they grow on a vine, bush, or tree. The study of these may be taken up in much the same way as the study of vegetables. The study of one fruit may be worked out more completely than others. Apples may be taken as the subject and stories may be written about the different steps involved in the preparation of apples for the market. There is free-hand paper cutting or pictures

drawn to show the gathering of the apples, apples packed in boxes, boxes loaded on trucks, trucks taking the boxes to the station, a freight train taking the boxes of apples to the city, and finally the apples in a grocery store or market. These pictures with the accompanying explanatory sentences may constitute an "Apple Book."

Drawing. After dramatization (see p. 469) different children may draw on manila paper or on the blackboard any activities that they wish, and the class may guess what each drawing represents. It is needless to say that no attention is paid to the technique of drawing, since the aim is not to teach how to draw farm animals and activities but to represent the idea involved. It makes no difference how crude and rough the drawings are—to the children they represent clearly the idea which they set out to show.

Reading. A list of foods which the children had for breakfast and lists of foods which came from the farm may be used for blackboard reading. Explanatory sentences about pictures, which the children compose and the teacher writes on the board, and stories which the children compose about the farm also serve as splendid reading exercises. The lists and sentences may be mimeographed, hectographed, or typewritten in primer type, according to the equipment at hand, and used for reading from the printed form. Stories adapted or selected by the teacher and material from the Farm Book and other books made by the children also furnish excellent subject-matter for the reading lesson.

Oral Composition. The content of oral composition should be informal discussions on subjects in which the children are genuinely interested. Children are not eager to talk about things with which they are not familiar. The subject of Farm Life offers continued opportunity for spontaneous oral expression so the content of the curriculum serves as a basis for the conversation. Every lesson includes conversation. One of the first things that the children are helped to do is to make clear, logical, and complete statements. An early habit is to say, "Yes," and "No," so that one step is

gained when they learn to make complete statements.

First-grade children can be given a sense of organization. In such stories as those of "Wheat" and "Corn" the idea of the simpler stages in cultivation and growth involves a corresponding attempt to tell the story showing these steps. The children are organizing without knowing that they are doing so. In telling the story of their visit to the bakery they must tell necessarily about the mixing of the bread before they tell about the baking.

Written Composition. The same requisite applies to written composition that applies to oral composition, namely, interest in and familiarity with the subject. The children must feel that they have something to write. They must have a motive for writing. To write because the teacher tells them to is not a sufficient motive. The result is apt to be stilted and formal. To write because they want to put the story in their Farm Book or because they wish to read it to another grade are motives that make for enthusiasm and better thinking.

The greater part of the composition work in the first and second grades is group composition work, that is, composition produced by the class as a whole. At this age the children are hampered in their writing by mechanical and technical difficulties. Their muscles are not sufficiently developed for the finer coordinations of movement which are required in the writing of compositions. In fact, children in a beginning first grade have the desire to write compositions before they know how to write the individual letters or words. They must be made to feel that writing is as natural and as easy a way to express their thoughts as speaking. So they dictate to the teacher what they wish written and she writes on the blackboard in large legible script, sentence by sentence, the ideas which the children give her. (See "The Story of Corn," p.498.)

As has been said before, no topic is used in written composition until it has been thoroughly discussed by the children. Then every child is familiar enough with the subject to contribute or to criticize. It may not be possible in every

lesson to have each individual child contribute a whole sentence, but every child should be asked to help in some way. For instance, he may reconstruct; he may shorten a sentence that is too long; he may add something to a sentence which will make it clearer; he may decide that one word does not convey the thought so well as another which he can supply. When a child indicates that he has a sentence for the story, he is asked to speak it clearly so that all may hear it and decide whether or not it conveys the thought as it should be given. After it is decided upon, the teacher writes it on the blackboard and several children are asked to read it. After the stories are completed at the blackboard, they are printed on charts of manila tagboard and the children read them from the printed form. The last stage is the story in printed form for their Farm Books.

TYPES OF GROUP COMPOSITION

We have a farm.
We made a house for our farm.
We have fields.
We have animals.

VEGETABLES

We like vegetables.
They are good for us.
Mother buys them from the farmer.
He grows them in the field.
He grows potatoes, carrots, and peas.
He grows corn, cabbage, and pumpkins.
Some of them grow in the ground.
Some of them grow on top of the ground.

APPLES

We visited an apple orchard.
We saw red and yellow apples.
They were in heaps under the trees.
The farmer put them in barrels.
He sold some to Mother.
She will make apple jelly.
She will make pies.

THE STORY OF CORN

Written by the 1A and 1B Children

The farmer plows the ground.
The farmer harrows the ground.
The farmer plants the corn.
The sun shines.
The rain falls.
The little green sprouts of corn spring up.
The corn grows very high.
The ears form on the stalk.
The farmer cuts the corn.
The farmer piles it into shocks.
The farmer husks the corn.
The farmer has a husking-bee.
He invites all his friends.
They all go to the barn.
They husk the corn in the moonlight.
They have a good time.
They eat apples and pop corn.
Corn is made into corn meal.
Corn is made into cornstarch.
Corn is made into corn syrup.
Corn is made into corn flakes.
Corn is used as food for the farm animals.

FARM ANIMALS

Cows live on the farm.
Sheep live on the farm.
Horses live on the farm.
Dogs are on the farm.

WRITING. Writing and written composition have a close correlation in the first grade. It is important that children from the time they enter school should feel the need of writing and that written words just as printed words should have meaning for them.

Mechanical drill exercises should occupy a small place in writing periods, but if the children are allowed to feel that this formal element is what constitutes writing not only will written expression have a tendency toward the formal and mechanical but it will also take a much longer time to develop. Just as in reading words are easier for the children to grasp than letters, so in writing words are mastered more quickly than the letters. Short sentences made by the children with thoughts significant to their experiences and interests are more easily written than words and exercises that are not familiar to them.

Just as soon as the project of the farm is started the children talk about the animals, buildings, or grains that they would like to have on their farm. They have drawn pictures of them, they have dramatized the activities, and it is only natural that they should be most anxious to write the names of some of these interesting things belonging to farm life, or sentences concerning them. These sentences are suggested by the children themselves, directed by the teacher, for a long sentence, of course, should not be attempted. Usually the teacher is able to get the right kind of response by questioning.

Perhaps the class is asked to tell something about "pigs" that may be written on the board, so that the children may write it in their Farm Books later. One child suggests, "Pigs eat corn." The pupils are standing before their places at the board and watch the teacher as she writes the sentence for

them in large script. She writes it several times and in different places on the blackboard. Then she erases all the copies and the children write it, or at least attempt it, for it may take several trials before they are able to write the sentence with any reasonable degree of legibility without the copy.

In a writing period of fifteen minutes, half may be given to sentence writing and half to formal exercises. For about two months all the writing is done at the board. Then the pupils are allowed to write at their seats, using large pencils and unruled paper. As soon as a pupil shows that he is able to write a sentence or word reasonably well and without assistance at the blackboard, he is permitted to write it on paper for his Farm Book. He may choose from his collection of farm pictures the one to illustrate his sentence and he may paste the sentence on the same sheet, ready for his Farm Book.

Literature. The poems which follow may be given in the literature period. The teacher should not expect the children to memorize the poems. Some are rather long and the children may enjoy them by listening to the teacher say them. The teacher must use her judgment in selecting those poems which are suited to the environment and the maturity of the pupils. The younger and more immature children will enjoy short poems and poems with much rhythm. Most children are very fond of "The Cow," by Robert Louis Stevenson, even if only the first verse is given. Such poems as "The Hayloft" and "Farewell to the Farm" are for older children.

MY BEAN

I hoed and raked the garden clean,
Then covered up my Lima Bean;
I prayed and soon the sunlight came
And in a day or two some rain,
Then after ages it would seem,
I saw a little bit of green;
But that one bean must be a clown,
For he came up just upside down.

Author Unknown

SOME GEESE WENT OUT A-WALKING[1]

Some geese went out a-walking,
  To breakfast and to dine;
They craned their necks, and plumed themselves—
  They numbered four from nine;
With their cackle, cackle, cackle!
  They thought themselves so fine.

A dame went walking by herself,
  A very ancient crone;
She said, "I wish that all you geese
  Were starved to skin and bone!
Do stop that cackle, cackle, now,
  And leave me here alone."

KATE GREENAWAY

UNDER THE WINDOW

Under the window is my garden,
  Where sweet, sweet flowers grow;
And in the pear-tree dwells a robin,
  The dearest bird I know.

Tho' I peep out betimes in the morning,
  Still the flowers are up the first;
Then I try and talk to the robin,
  And perhaps he'd chat—if he durst.

KATE GREENAWAY

[1]The two poems on this page are from *Under the Window*. New York: Frederick Warne & Co., Ltd.

THE RUDE PANSIES

The purple pansies looked at me
From out their garden beds;
They would not nod their heads,
But just as rudely as could be
They all just stood and looked at me.

Till Mother Wind came softly up
And whispered in their ears,
Said, "Don't be rude, my dears,"
And then politely as could be,
Each pansy made a bow to me.

AUTHOR UNKNOWN

FARM LIFE

The farmer reaps the golden wheat,
The baker bakes the bread we eat;
Then mother spreads the slices thick
And then we eat them very quick.

AUTHOR UNKNOWN

Back of the bread is the snowy flour,
Back of the flour is the mill;
Back of the mill is the wheat and the shower
And the sun and the Father's will.

AUTHOR UNKNOWN

HARVEST[1]

Summer is gone, autumn is here,
This is the harvest for all the year.
Corn in the crib, oats in the bin,
Wheat is all threshed, barley drawn in.

Carrots in cellars, beets by their side,
Full is the hayloft, what fun to hide!
Apples are barreled, nuts laid to dry,
Frost on the garden, winter is nigh.

[1]From *Little Primary Pieces*, compiled and arranged by C. S. Griffin. Given by permission of The Penn Publishing Co., Philadelphia.

Father in Heaven, thank Thee for all,
Winter and springtime, summer and fall,
All Thine own gifts to Thee we bring,
Help us to praise Thee, our Heavenly King.

LYDIA A. COONLEY

BAKING DAY[1]

Even when Mary's hard at work,
Or it is baking day,
She always seems to me to have
Some pleasant thing to say.

She lets us watch her make the pies
Or cut out little cakes,
And gives us scraps of dough to cook
'Most every time she bakes.

KATHARINE PYLE

IN THE TRAIN

Away through the country
We hurry so fast
You scarcely can see things
Before they have passed.

The meadows of daisies,
The children at play,
The trees and the houses,
They all slip away.

The fences whisk by us,
The far-away hill
Moves back like a sentinel
Solemn and still,

And only the thin little
Moon in the air
Sails silently with us
And always is there.

KATHARINE PYLE

[1] This and the following poem are from *Childhood*. New York: E. P. Dutton & Co.

THE HAYLOFT[1]

Through all the pleasant meadow-side
The grass grew shoulder-high,
Till the shining scythes went far and wide
And cut it down to dry.

These green and sweetly smelling crops
They led in wagons home;
And they piled them here in mountain tops
For mountaineers to roam.

And here is a mill and there is a river:
Mount Eagle and Mount High;—
The mice that in these mountains dwell,
No happier are than I!

O what a joy to clamber there,
O what a place for play,
With the sweet, the dim, the dusty air,
The happy hills of hay!

ROBERT LOUIS STEVENSON

FAREWELL TO THE FARM

The coach is at the door at last;
The eager children, mounting fast
And kissing hands, in chorus sing:
Good-bye, good-bye, to everything!

To house and garden, field and lawn,
The meadow-gates we swung upon,
To pump and stable, tree and swing,
Good-bye, good-bye, to everything!

And fare you well forevermore,
O ladder at the hayloft door,
O hayloft where the cobwebs cling,
Good-bye, good-bye, to everything!

Crack goes the whip, and off we go;
The trees and houses smaller grow;
Last, round the woody turn we swing:
Good-bye, good-bye, to everything!

ROBERT LOUIS STEVENSON

[1]This and the three following poems are from *A Child's Garden of Verses.*

THE COW

The friendly cow all red and white,
I love with all my heart:
She gives me cream with all her might,
To eat with apple-tart.

She wanders lowing here and there,
And yet she cannot stray,
All in the pleasant open air,
The pleasant light of day;

And blown by all the winds that pass
And wet with all the showers,
She walks among the meadow grass
And eats the meadow flowers.

ROBERT LOUIS STEVENSON

AT THE SEASIDE

When I was down beside the sea
A wooden spade they gave to me
To dig the sandy shore.

My holes were empty like a cup.
In every hole the sea came up,
Till it could come no more.

ROBERT LOUIS STEVENSON

HAPPY FAMILIES[1]

On the grassy banks
Lambkins at their pranks;
Woolly sisters, woolly brothers
Jumping off their feet
While their woolly mothers
Watch by them and bleat.

CHRISTINA ROSSETTI

[1] From *Sing-Song*, by Christina Rossetti. Reprinted by special arrangement with The Macmillan Co., publishers, New York City, and The Macmillan Co. of Canada, Ltd., Toronto.

CHANTICLEER[1]

High and proud on the barnyard fence
  Walks rooster in the morning.
He shakes his comb, he shakes his tail
  And gives his daily warning.

"Get up, you lazy boys and girls,
  It's time you should be dressing!"
I wonder if he keeps a clock,
  Or if he's only guessing.

JOHN FARRAR

MY GARDEN

My garden was silly and stubborn;
  I worked, but the weeds worked, too;
I dug and scraped and scrambled—
  They hustled themselves and grew;

Now Ted's garden's fine and cleanly,
  He has lettuce and roses and peas—
Oh, most probably plants are like children—
  They only behave when they please!

JOHN FARRAR

[1]The two poems on this page are from *Songs for Parents*. New Haven: Yale University Press.

THE WORM[1]

Dickie found a broken spade
And said he'd dig himself a well;
And then Charles took a piece of tin,
And I was digging with a shell.

Then Will said he would dig one, too.
We shaped them out and made them wide,
And I dug a piece of clod
That had a little worm inside.

We watched him pucker up himself
And stretch himself to walk away.
He tried to go inside the dirt,
But Dickie made him wait and stay.

His shining skin was soft and wet.
I poked him once to see him squirm.
And then Will said, "I wonder if
He knows that he's a worm."

And then we sat back on our feet
And wondered for a little bit.
And we forgot to dig our wells
Awhile, and tried to answer it.

And while we tried to find it out,
He puckered in a little wad,
And then he stretched himself again
And went back home inside the clod.

ELIZABETH MADOX ROBERTS

[1] From *Under the Tree.* New York: B. W. Huebsch, Inc.

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W. Atlee Burpee Co., Seed Growers
485 N. Fifth St., Philadelphia, Pa.

Henderson's Seed Catalog
Peter Henderson & Co.
35-37 Cortlandt St., New York City

Lovetts' Catalog
Lovetts' Nursery
Little Silver, N. J.

Magazines:

Breeder's Gazette
The Country Gentleman. (The Oldest Agricultural Journal in the World.)
American Fruit Growers' Magazine
American Poultry Journal
Poultry Tribune
The National Geographic Magazine
The Nature Magazine
The American Magazine
Better Homes and Gardens
Good Housekeeping. (Cover pictures excellent.)
The Ladies' Home Journal
The Saturday Evening Post
Woman's Home Companion

CHAPTER FIVE

THE STUDY OF INDIAN LIFE
(*INCLUDING THE ESKIMO*)

INDIAN Life represents a type of environment far removed from the modern home and the community. After a study of the near and related, the children may compare the lives and habits of other people in terms of their own experiences. They further appreciate their own surroundings through the study of a people who had to go through many hardships to provide themselves with the bare necessities of life. The life of the Indian offers an interesting explanation of how primitive man lived close to nature and of how he utilized the forces of nature to feed him, clothe him, and shelter him. The children become enlightened concerning the manner of living when there were no farms, stores, or houses, such as we live in, and when there were few tools. They learn what the sources of supplies were in those early days and how the Indians adapted these supplies to their needs for food, clothing, and shelter—the basic factors of life.

Two tribes of Indians are described in this chapter: the Ojibwas (also called the Chippewas), a tribe whose customs illustrate many responses to environment, and the Eskimos, another type of Indian showing the response to a wholly different kind of environment from that of the Ojibwas. The subject-matter to be used in teaching the life of both of these types is given, including the stories through which the teacher may awaken the children's interest in the subject.

PREPARATION OF TEACHER. The teacher who is to work out the unit of Indian Life with children must read widely about the tribe she is to teach. She must become so familiar with the way these Indians lived, their homes, their food, their occupations, and their arts that she will feel herself able

to supplement the information set forth in any child's book of Indian stories. She should be consistent in teaching the life of that one particular tribe, even to details. As the subject enlarges and the story progresses day by day, the name of the tribe may be used in incidental ways, as: The tribe to which little Ji-shiḃ (pronounced "She-sheeḃ") belonged, the Ojibwas or Chippewas, built their homes in such and such a way; they traveled in canoes, and hunted the buffalo.

The teacher may teach about Indians as Indians—that is, she may teach the subject in this more abstract way—but she must remember that children are likely to be much more interested if all the stories are based upon the life of an Indian child. We must remember that children like children and that they are interested in other children. So, to make the subject more specific, it is well to build the whole story around the life of one Indian child belonging to the particular tribe concerning which one wishes to teach.

THE INDIAN PROJECT[1]

THE study should begin and proceed as an interesting story well supplemented with pictures and other illustrative material. If the teacher can procure any Indian relics—bows and arrows, moccasins, Indian garments of any kind—she can make the study more real than by using description.

FORM OF APPROACH. There is no more interesting way to begin the study than with the birth of the Indian baby. Such a form of approach has an advantage in that it introduces in a natural manner the customs and ceremonials of the Indian. It serves to humanize the Indian from the start. The teacher may use as a basis for her stories *The Childhood of Ji-shiḃ, The Ojibwa.*[2] (Some of these stories have been adapted and are given in connection with this chapter.) Before she tells the first story, which is about the birth of the baby, she may

[1]The project on Indian Life given in Primary Art, p. 112 of this volume, may be used in connection with this study.

[2]Albert Ernest Jenks, *The Childhood of Ji-shiḃ, The Ojibwa.* Chicago: Mentzer, Bush & Co.

ask the children, "How many of you have ever seen any Indians? Where did they live?" The children talk freely about any experiences they have had with Indians and then she may say, "Would you like to hear a story about the birth of an Indian baby whose name was Ji-shiḃ? That was not his name at first, for when he was born his mother called him her little 'Blue Bird.'" The teacher tells the story (see p. 535) and allows the children to talk spontaneously about it. She should tell it several times so that the pupils will become thoroughly familiar with it. She may print on a piece of tagboard the song that the Indian squaw sang to the baby, "O my little Blue Bird" (p. 535). After the story has been told several times by the teacher, she may permit different children to tell it. They may first tell only as much of it as they can tell well, another taking up the story where one leaves off. The next story will be "The Naming of Ji-shiḃ" (p. 537), followed by the story, "Ji-shiḃ's Cradle" (p. 538).

LEARNING ABOUT THE INDIANS' HOUSES

Before the teacher describes how Ji-shiḃ's home was built, she asks the children what kind of houses they live in, and how they are built. She makes very clear that the Indians had to use what they found at hand and had to build their homes from materials which they had around them—trees and bark, skins, etc. The house which they built was a comfortable one and met their needs well. Sometimes they used the hide of the buffalo and made skin tepees that withstood the rain and the cold. The teacher then tells the story, "Ji-shiḃ's Home," and shows a picture of the tepee (p. 539).

Grinnell[1] in *The Story of the Indian* tells us that the common movable house of the plains tribes was the conical tepee made of a number of dressed buffalo skins sewed together and supported by sixteen lodge poles. To the north, among the Lake Winnipeg Chippewas, the tepee covering

[1]George Bird Grinnell, *The Story of the Indian.* New York: D. Appleton & Co.

was of birch bark. The usual way to put up the skin tepee was first to tie four lodge poles together, about two feet from the tips, and then set them up in the form of a square-based cone, after which all but one of the remaining lodge poles were laid up in a circle, their tips resting in the crotches formed by the crossing of the original four. The upper edge of the lodge skin was then tied to the remaining pole at the proper height and with it was raised at the back of the lodge. Then the side edges of the loose skin were brought around and fastened together in the front with wooden skewers. Last of all, the poles were pushed outward at the bottom until the skin was tight. Where the lodge poles crossed at the top of the wigwam there were "extended ears" which could be adjusted to let out the smoke. A curtain was hung in front, and inside could be found robes and blankets for couches. Some lodges were clean and white, and others were brown and weather-stained. Some tepees were painted in gay colors with men and animals arranged so that they told interesting stories about the owners of the tepee. Sometimes a buffalo tail or eagle feathers or a string of little hoof sheaths would hang from the lodge poles of a tepee. All these things would tell what a brave warrior was the owner of the tepee.

It is most essential that the children get a clear idea of where the Indians got the materials for their homes and how they built them. The skin tepee is far more picturesque than the bark tepee and, in general, it is the popular conception of an Indian home. The children should be shown pictures of an Indian tepee, if that is the form of shelter of the Ojibwas that the teacher wishes to present. If she wishes to present the bark tepee as the kind of home Ji-shib lived in, then she will tell the story and show a picture of it.

The children should be allowed to draw tepees and to construct them of paper or of khaki cloth or lining, using paste sticks for lodge poles, if the tepee is supposed to be of skin. They should be allowed to experiment first, using ordinary wrapping paper. Afterwards they may use lining to make the tepees. If there is enough space in the schoolroom the

teacher may place a large-sized tepee made of canvas or other heavy material in one corner of the room. Here the pupils will delight in acting out spontaneously different scenes from the story of Ji-shiḃ. This is more valuable than set dramatization, and forms a good foundation for group dramatization.

LEARNING ABOUT THE INDIANS' FOOD

The stories of Ji-shiḃ (pp. 543 and 549) bring out the fact that the Indians procured most of their food by hunting; at least three-fourths of their food was procured from animals. The vegetable food consisted of nuts, seeds, and roots. The cereal products of the Ojibwas consisted of corn and wild rice.

In some communities the whole village went on a buffalo hunt and stayed several days. After the animals were killed, they were skinned, cut up, and carried on ponies into the camp. Then the skins were pegged out to dry, the meat was cut up into strips or sheets for drying, and some was made into pemmican (see p. 529). Constant comparison should be made between the way the Indians procured and prepared their food and the way we procure and prepare ours.

In this day, as civilization becomes more and more complex, it is very difficult to reproduce any of the more primitive forms of cooking. However, the children may be taken to the woods so that they may find out what the woods offer in the way of field food materials and materials suitable for carrying on some of these earlier processes. The children have listened to stories of what Ji-shiḃ had to eat. They have found out that the Indians ate roots, seeds, berries, and grapes, and that birch bark, stones, and roasting sticks were the materials used in carrying out the processes of cooking. They find that the Indians may have cooked by:

Roasting in the hot coals
Broiling on green sticks
Parching in birch-bark baskets
Baking on heated stones
Boiling with hot stones

The children on their excursion desire to carry out one process in the detailed preparation. Baking on heated stones is a very important process of cooking as both the preparation of the flour and the utensils employed are significant. This process is chosen for development, but the other processes are not carried out in such detail. As much is done out of doors as possible. Fire is kindled and the children begin their cooking by roasting nuts and potatoes in the ashes. They may broil bacon on green sticks over the coals in order to learn how the Indians broiled their meat. If they wish to boil by using hot stones, the stones are heated in the fire and lifted into a jar or receptacle containing water and meat.

To carry out the process of baking on heated stones, first take the whole wheat and grind it with a mortar and pestle. The problem is put up to the children: "How can we make a mortar and pestle?" The Indians often made a wooden mortar by burning the center of a tree trunk and keeping the edge intact by wetting down. The children may find it simpler to hunt two stones, one of which has a slightly concave surface. They may place the wheat on the concave stone and crush it with the other. The flour is then mixed with water and the dough is baked on heated stones. They may have a luncheon consisting of broiled meat, baked potatoes, nuts, and bread.

They are told, also, of the acorn flour which the Indians sometimes used. First they dried the acorns, took off the shells, and then pounded the nuts in a stone mortar. The flour which was made was bitter, so the Indians evolved a very interesting way of getting out the bitter taste. They piled up a heap of clean sand, made a hole in the top of it and lined the hole with leaves from the fir tree. They stirred warm water into the bitter acorn flour which made it dough and then placed the dough into the sand hole. The leaves kept the sand from getting into the dough and the water ran out of the dough taking the bitter taste with it. Then the Indians had sweet acorn flour for bread.

The story of the gathering of the wild rice by Ji-shib

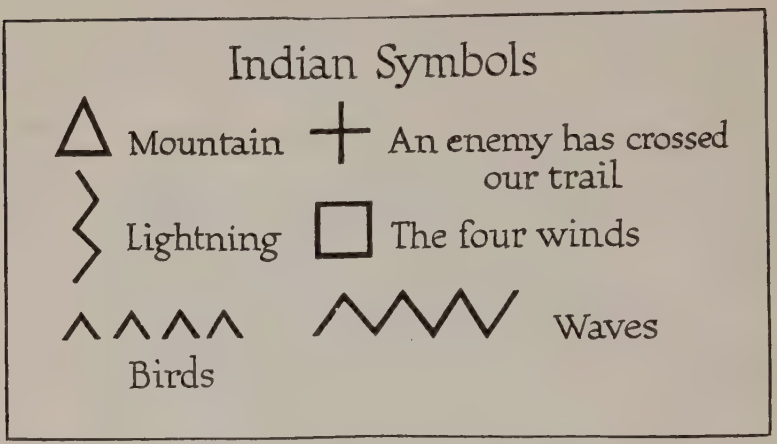
(p. 548) should be told to the class, for it describes the preparation of the most important cereal food of these Indians.

LEARNING ABOUT THE INDIANS' CLOTHING

Children delight in "dressing up," especially in Indian costumes. Too often is this dressing up done without any intelligence concerning the source of materials which the Indians used for their clothing. Information on the clothing of the Ojibwas is given on page 518. If it is possible to show to the group a suit of real Indian clothing—shirt, leggings, and moccasins—it makes for greater intelligence and enthusiasm in the project. If we haven't the models, then we shall use pictures. The class decides to make an Indian shirt to come just above the knees. As a first step the teacher shows them how to fold paper and cut paper dolls, which are to the children, of course, little Indian paper dolls. Then the children fold paper and cut little Indian paper dolls. They next cut dresses, or "Indian shirts" for their dolls, and put them on over their heads. They cut fringe on the sides and decorate the shirts with designs, using their crayolas. They learn the meaning of certain designs, such as those on page 516.

No child is to draw a design until he knows its meaning. The next step is one which may be used by the teacher if she desires, or if she prefers, she may omit it. The children may take little clothespins and make dolls by adding arms and legs which they make out of plasticine. Then they cut and decorate dresses for these in the same way that they cut, fringed, and decorated the dress for the paper dolls.

Now they come to the problem of making their own dresses and decide to make a pattern first. They are given newspapers or wrapping paper and the teacher asks, "How are we going to make our own dresses? How did you make the doll dresses?" They answer that they made the doll dresses by fitting the paper or the dress on the doll. "So how can you make your own?" brings the answer, "We can fit the paper on ourselves." They discover that it is easier to fit one



another, so they work by two's, each one measuring the other. There has to be both a back and a front, so they fold the paper. They measure to just below the knees and cut off the long part. Then they have to measure to see how wide they want it at the shoulders. Through pictures the children have found that the sleeves come just above the elbows so by holding out their arms they can measure how wide the paper is to be. "How are you going to put it on?" asks the teacher. Of course there must be a hole for the head, so they cut the opening by guess; as a result, some are too large and some are too small. Some of the pupils decide to use a ruler and find out about how many inches smaller, or larger, to cut the opening when they cut their material. For instance, some may cut the hole so large that the dress falls over the child's shoulders.

Now they have the paper patterns, but they come straight down, so the teacher asks, "Does yours look like a dress?" Naturally the children answer, "No." "What did you do with your doll's dress to make it fit?" she inquires. "We slanted it down at the sides." They decide to leave the dress wide at the bottom and slant it from the armpit. Some may use the yardstick to do this. Now they have cut out their patterns, and if they are of wrapping paper, they may wish to draw the

designs on them. Perhaps the teacher draws the symbols on the blackboard and the children choose which ones to use on their suits.

They now use their patterns and cut real Indian suits. Brown lining is very good to use and is about as inexpensive a material as one can get. Two yards is sufficient to make a shirt, moccasins, headdress, and quiver for arrows. The headdress is a band made to fit around the head; the children can fold a piece of the cloth together, making a double thickness, fit it to their heads and fasten on the inside of the band either chicken or turkey feathers. Ordinary stickers may be used to fasten the feathers to the cloth. If real feathers cannot be procured, the children may cut and decorate feathers out of gray or white bogus paper.

SAND-TABLE REPRESENTATION

The children may wish to show on the sand table the village where Ji-shiḃ lived. They may make little wigwams of khaki cloth by using circle-markers. The wigwams may be about eight inches wide, with paste sticks or twigs for the poles. They may make canoes out of paper and show the river with the canoes drawn up on the shore. They may procure little birch-bark canoes and use them also. They collect small twigs and build fires, over which they may cook. They use their clothespin dolls and show the Indians engaged in various occupations. The women are dressing skins and pounding meat for pemmican. Indian men are bringing in buffalo and making bows and arrows. Ji-shiḃ is shown spinning a top.

SUBJECT-MATTER FOR THE STUDY OF THE OJIBWA INDIAN

Classification and Location. The Indians of America are divided into groups according to their language characteristics. The most important group or stock is called the

Algonquian. The Algonquian Indians were divided into many different tribes who, before the coming of the white man, occupied nearly the whole territory from Labrador to the Rocky Mountains on the north and extending southward through part of New York and Pennsylvania, through all of New Jersey, Delaware, Maryland, and Virginia, into eastern North Carolina above Cape Fear, through a large part of Kentucky and Tennessee, and through all the territory north of those two states and for some distance west of the Mississippi River. So you see that one family of Indians might occupy a vast area.

The largest and most important tribe belonging to the Algonquian family was the Ojibwa or Chippewa tribe who formerly occupied an extensive territory about the upper Great Lakes in Wisconsin, Michigan, Minnesota, Ontario, Manitoba, and adjacent regions. They are now gathered on a number of reservations within this territory. The name Chippewa is a corrupted form of the old name Ojibwa.

The country in which these Indians formerly lived was covered with forests of pine and oak and birch. Here and there were plains where the Indians did their hunting. Many lakes and rivers afforded them an opportunity to fish.

Description and Dress. The Ojibwa Indians were of medium height, broad shouldered, and strong. Their skin was a rich dark copper color and their hair was long, fine, shiny, and black. Their eyes were rather small and had a peculiar slant.

Dress of men. The everyday clothing of the men consisted of a loose coat or shirt coming down to the knee or below. This was made of dressed deer or moose skin, fantastically and elaborately decorated with tassels of the same material or with porcupine quills or beads and silver brooches. Their leggings were made of the same kind of skins. Around their waists they wore belts to which the leggings were fastened. These belts were worked with beads. Their moccasins were made of dressed deerskin worked with quills or beads or fringe. Their headdresses were made from the skins and

feathers of birds, such as the eagle, crow, hawk, owl, and duck; and sometimes from fur skins, such as the beaver, mink, muskrat, and tails of the wolf and fox.

The men also wore pouches, which were bags containing pipe and tobacco, fastened to their belts. During the time of war the breechcloth, leggings, and moccasins were worn. The war band of feathers worn around the head and hanging down the back was also a typical part of the war dress.

The men generally wore their hair long and hanging down to their shoulders. Some of the old men had the hair of their heads cut very close; others had it plucked out by the roots except a small tuft on the crown which was left as a bravado, so that in case they should fall into the hands of their enemies they might be scalped with ease.

Dress of women. The women wore short jackets or gowns and petticoats of deerskin and a mantle thrown over the shoulders. They also wore leggings and moccasins neatly worked with beads and fringe. Their hair was tied up in a bunch behind. They sometimes wore a headdress of bead ornaments over the ears and spangles hanging to the shoulders. In winter both men and women clothed themselves with furs, such as buffalo, bear, and rabbit.

Dress of children. The dress of the children was very similar to that of the parents. Their clothes were made of skins or fur and were beaded or fringed. A band was worn about the head with two feathers at the back.

Occupations. The Ojibwa Indians were an industrious tribe working all day and at all times of the year. The division of labor was distinct, certain work being done by the men, other work by the women.

Work of the men. It fell to the men of the tribe to do the hunting and fishing and fighting. The buffalo herds which once roamed over the open spaces and through the woods afforded the Indian an abundance of hunting, and the meat and the skins were of great value to him. Deer, beavers, otters, and rabbits also darted through the woods and the Indians were skillful in capturing these animals. The hunt-

ing and fishing and trapping were very hard work and frequently very dangerous. The chief manual labor of the Indian man was that of making his implements for hunting and warfare. This work took much of his time. The Indian spent a great deal of his time in hunting and in warfare and his need for arrows was great. It would never do to have his supply become exhausted.

Work of the women. It has often been said that the women of the Indian tribes had most of the work to do, while their husbands sat about the fire and idled their time away. This is not true, for although the women did work hard they still had their good times gossiping with the other women and playing games. They were assisted in their work by the children and the old men, for in an Ojibwa camp there was work enough for everyone.

The chief work of the women besides bearing and caring for the children was building the lodge or wigwam. The entire wigwam was built by the women. The rolls of bark or skins which were used were prepared by the women, and even the poles for the framework were cut by them. In the camp the woman's work consisted of preparing skins for clothing and making the clothes, leggings, and moccasins. She gathered the wild fruit, which she dried and used with the meat. She chopped the wood, brought the water, and cooked the meals. She even aided the men in the making of the canoes by sewing the bark together and then gumming the seams. When the tribe moved the women broke up camp, carried the packs, and set up the new camp. This was done so that the men might be free to ward off attacks from enemies and that they might be free to scout around and secure good hunting grounds. Sometimes the women followed the hunt and helped to skin the animals and quarter the meat. Altogether, the life of the Indian squaw was filled with things to be done.

Food. The Indians secured most of their food from the animals of the forest. They hunted the buffalo, deer, rabbits, and sometimes wild dogs. Duck, partridges, and fish were an

important part of the Indian's food supply. They knew the berries and the roots which were good strength-building foods and gathered them to use with the meats. Wild rice grew in abundance and the corn or maize was excellent food. They made sugar from the sap which they learned to extract from the maple trees. Living in a cold country they gave little or no attention to agriculture.

Building the Wigwam. The wigwam was the shelter of the Ojibwa Indians and it was made of the skins of animals or of the bark of the birch, larch, or tamarack tree. The Indians' house had to be of such material that could be moved easily, so he resorted to skins or mats or bark to cover the framework of poles. These could be taken off, rolled up, and carried away at a moment's notice. Sometimes the food supply gave out and sometimes enemies caused the tribe to move on.

The framework of the wigwam consisted of from sixteen to twenty young trees thrust into the ground at equal distances apart so as to form a rectangle or circle as was desired. When the tall young trees (about fifteen feet high) were fixed upright in the ground the branches were bent over and fastened together two by two. Then the ends were twisted around one another and fastened with fiber from the cedar tree, called bast. Thus a kind of arbor was formed and the framework was completed. But to give it greater firmness crossbars were added. There were also young trees or branches laid across the top and firmly tied at all points of intersection. The whole framework resembled a loosely woven basket of semi-oval form. When the framework was completed the covering of bark or skins was put on.

"Apakwas" was the name given to the rolls of birch bark which were used to cover the wigwams. These consisted of large pieces of birch bark sewed together. Each piece was about a yard square, for a larger piece of bark free from flaws and branch holes was rarely found. The first row of bark was put on at the bottom and bound to the framework; the second row hung down over the first so that the rain could

run off; a third and fourth row completely covered the framework. A couple of apakwas were then thrown crossways over the hut, leaving a smoke hole in the center. Then a mat was hung over the space left as the doorway. In order that the wind might not disturb the apakwas, long cords of cedar bast were thrown across with heavy stones fastened to the ends. In this way the semiconical wigwam was made very firm.

The interior of the wigwam had very simple furnishings. A fire burned in the center and mats and rugs used as beds lay about on the floor. Any utensils or implements used by the women were placed along the walls or wherever they would be convenient for work. The wigwam had many values: It was a well ventilated home; it could be moved easily should the food supply give out or should the inhabitants be routed by unfriendly Indians; it was the only tent that permitted smoke from the inside. Tribes not building this kind of home had to build the fire outside.

Building the Canoe. Longfellow says:

> Lay aside your cloak, O birch tree,
> Lay aside your white skinned wrapper . . .

It is true that the birch tree had to lay aside its white skinned wrapper, but with aid of a good ax and a sharp knife. The smoothest, largest trees were selected so that the pieces of bark would be as large as possible. Then, too, the larger the bark, the less the sewing that would have to be done. The Indian men scraped the inside of the bark with knives and then gave it to the squaws, who sewed it together and formed a large cloak which could be wrapped around the whole of the canoe. While the squaws were doing this, the men took elastic branches of the cedar tree and made the frame of the canoe. They usually had a sort of model or frame the size of the canoe round which the branches or ribs were bent. The arches or ribs were larger in the center, and grew smaller toward either end. They were of semicircular form and were peeled very thin because lightness and easy carriage were the important qualities of the canoe. All the parts of the canoe

were sewed and tied together because the Indians made no use of nails or screws.

When the framework was completed, the bark covering was spread out on the ground, laid over the frame, and drawn as tightly as possible around it, and then was sewed to it. The inside of the canoe was then lined with thin boards laid across the ribs. These protected the bottom from the feet of the passengers. All the woodwork in the canoe was of the red cedar, for this wood is very elastic, does not split, has but slight specific gravity, and is easily cut. The cords and strings were obtained from the same tree, but in addition the Indians used the bast taken from the roots of the spruce. This was prepared by the women who were always busy twisting "watab" as it was called. They could make either twine or stout cords out of it.

The last step in the making of the canoe was pitching all the little holes, seams, and stitches. For this the Indians used rosin of the pine or fir and it was laid on in thick patches wherever a hole would allow water to come in. The weak parts of the bark or the holes where the branches had been were also covered with rosin. (See also p. 545.)

We can see that the canoes had no keel and that they were built of such light materials that they floated very lightly on the water—

Like a yellow leaf in autumn,
Like a yellow water-lily!

CRADLE. The cradle of the Ojibwa babies was really a little house within a house, and was called, in Indian language, a "tiki-nagan." Indeed, it was almost more carefully prepared than the dwelling of the grown people. The most important thing in the baby's house was a flat board. Poplar wood was chosen for this board because it is light and, moreover, it does not crack or splinter. On this poplar board a small frame of thin peeled wood made to fit the shape of the child's body was fastened. It stood up from the poplar board like the sides of a violin from the sounding board. It was fastened on with bast, for the Indians had no nails, screws, or glue.

The cavity made by placing the frame on the poplar board was filled with a mixture of fine dry moss, decayed cedar wood, and a species of wool found in the seed vessels of a kind of reedlike plant. This substance made a nice soft bed for the baby, whose body was wrapped tightly in bandages and coverings, leaving the head and arms free. At a convenient distance above the head was a stiff projection of wood which was also fastened to the cradle with bast. It served as a protection to the head and if the cradle happened to fall over it rested on this arch. In fact, the tiki-nagan could be rolled over and over without the child's being injured. Playthings could be hung on this arch, and such queer playthings as were hung on it!—carefully worked little moccasins hanging down over the baby's nose or a little bow and arrow or a round piece of caribou leather from which small pieces of stag's horn were suspended (see p. 538).

Games and Sports: *Ball games.* The racquets in the Indian ball game were two and one-half feet long and were carved very gracefully out of a white tough wood and provided with a handle. The upper end was formed into a ring four or five inches in diameter and covered by a network of leather bands. The balls were made of white willow and cut perfectly round by hand. Crosses, stars, and circles were carved upon them.

Shooting with bows and arrows. This game seemed to form the first amusement of little boys who grew up, as it were, with bows and arrows in their hands. They would practice shooting at marks and at some small game, as squirrels, and so become good marksmen.

Games played on ice. Snow snake was a popular game played on ice. For this game sticks about six feet long with an eye and a mouth like a snake were carved out of hard, rough timber. Indians played the game by taking the snake by the tail and throwing it along the ice or snow with all their strength. Whoever sent his snake the farthest a certain number of times won the game. The Indians also collected the oval stones found on the banks of rivers and used them

in games on the ice in winter. One of their games resembled hockey.

Foot races. Foot races were very common among the Indians, who showed much swiftness.

Swimming and diving.

Bowl plays. Plum stones were used, one side burnt black and the other side left the natural color. Seven plum seeds were placed in a wooden bowl and were then tossed up and caught. If they happened to turn and fall with the white side up, they counted so many points; or if they fell with the black side up they counted a certain score.

Dancing. Both men and women participated in dancing. Men began with a slow step and quickened their motions —stamping and shaking most violently—until every muscle was strained to its greatest tension. Two kinds of drums were used. One, about two feet long, was made from the trunk of a hollow tree. One end was headed with a board while the other was covered with undressed deerskin on which the Indians beat. This kind of drum was used principally for sacred purposes. The other kind was made in the form of English drums and was used for festival occasions.

Spinning top. The Indian children enjoyed spinning tops which they made out of acorns and nuts.

Wampum. The most valuable ornament that the Indians had was wampum. It was so valuable that it served sometimes as money. It was made of clam shells, a shell resembling in form the oyster shell but having two colors inside, purple and white. The shell was clipped to the size of a small tubing and then drilled and afterwards ground to a smooth round surface and polished. Purple wampum was much more valuable than the white wampum. Influential chiefs sometimes wore heavy masses of these shells around their necks.

Folklore. The Ojibwas had a great number of legends, stories, and historic tales, the relating and hearing of which formed a vast fund of winter evening instruction and entertainment. Every mountain or lake had some story of wonder, and every bird and beast was a subject for the story-teller.

OUTLINE FOR STUDY OF THE OJIBWA INDIANS

I. Tribe—Ojbwa

II. Family—Algonquian

Principal tribes belonging to Algonquian Family

A. Algonquin
B. Blackfoot
C. Arapaho
D. Kickapoo
E. Cheyenne
F. Potawatami
G. Sac and Fox
H. Shawnee
I. Cree
J. Lenape or Delaware
K. Ojibwas or Chippewas

III. Location

A. Algonquian Family

Atlantic seacoast from Labrador to North Carolina; west to Rocky Mountains in Canada and northern United States and beyond Mississippi River farther south

B. Ojibwas

Region about the upper Great Lakes

IV. Type of country in which Indians formerly lived

A. Forest covered
B. Intervening plains
C. Land of lakes and rivers
D. Game of forest and plain: wolves, deer, rabbits, buffalos, bears, partridge
E. Game of rivers and lakes: fish, ducks

V. Personal appearance of Ojibwas

A. Stature: medium height, broad shouldered
B. Complexion: copper colored, rather dark
C. Hair: black, shiny, straight
D. Eyes: rather small, slanting

VI. Character

A. Quiet
B. Less warlike than some tribes
C. Kind to families

VII. Training
  A. Training for character
    1. Meeting hardships and danger bravely
    2. Love of solitude
    3. Generosity to poor
    4. Fasting
  B. Physical training
    1. Body developed and trained to endure hardships
    2. Ears trained to catch sounds of forest
    3. Eyes trained to distinguish animals in bushes

VIII. Shelter
  A. Skin tepee
    1. Exterior
      a. Frame made of from 16 to 20 poles
      b. Covering of buffalo skin
      c. Smoke flap
      d. Smoke hole
      e. Door
    2. Interior
      a. Fire in center
      b. Bed, a blanket or skin
    3. Putting up tepee
      a. Poles set up and fastened together at top
      b. Poles spread out in circle at bottom
      c. Skins sewed together and spread over poles
      d. Smoke hole left in top
      e. Smoke flap hung around smoke hole
      f. Small opening left for door; skin hung over
  B. Birch-bark wigwam
    1. Exterior
      a. Frame, 12 to 14 saplings
      b. Covering, birch bark
    2. Interior same as skin wigwam
    3. Putting up birch wigwam
      a. Saplings set up in circular or oblong form

b. Tops of saplings laced together to form roof
c. Bark cut in several strips
d. First strip around bottom, next strip just above, and so on
e. Value of strips
(1) One above the other sheds rain
(2) Strips easily rolled up for transportation

C. Values of tepee and wigwam
1. Well ventilated
2. Easily moved
3. Sanitary because new ones are put up rather often

IX. Food
A. Types of food
1. Animals: buffalo, deer, rabbits, sometimes wild dog
2. Fowl: ducks, partridge
3. Fish
4. Berries and roots
5. Grain: wild rice, corn, some wheat
6. Maple sugar

B. How procured
1. Animals caught with traps
2. Animals hunted with bow and arrow
3. Buffalo hunt annually
4. Fishing
a. Lines, hooks, nets, baskets, and traps
b. Spearing
5. Roots dug
6. Wild rice gathered
a. Gathered in canoes
b. Heads beaten off with sticks
7. Corn planted

C. How prepared
1. Skinning and cutting animals
2. Broiling or roasting meat
3. Boiling with heated stones

4. Making into pemmican
   Dried meat of buffalo or deer pounded to a powder and mixed with boiling fat and sometimes with berries. It was pressed into cakes and saved for the winter
5. Threshing rice
   a. Hole dug in ground, skin spread inside; rice placed in hole and stamped on by Indians in new moccasins to remove outer coat; grain shaken in basket
6. Grinding grain
   a. Use of stone mortar and pestle
   b. Use of tree trunk and branch
7. Cooking
   a. Over campfire by squaw
   b. Setting up poles for hanging kettle
   c. Roasting in hot ashes
   d. Roasting on hot stones
   e. Broiling on green sticks
   f. Boiling with heated stones

X. Occupations and arts
   A. Hunting and fishing
   B. Swimming
   C. Making canoes
      1. Frame
         a. Skeleton of cedar
         b. Four crosspieces
      2. Covering, one piece of birch bark
      3. Construction
         a. Bark cut in one strip nearly whole length of tree
         b. Bark warmed until soft like leather and sewed together at ends with bone bodkin, threaded with roots of spruce tree
         c. Bark tied along top of frame
         d. Crosspieces fastened in
         e. Seams covered with melted pine pitch

D. Making snowshoes
E. Making bows and arrows
F. Picture-writing
    1. First symbols on sticks tied together in bundle
    2. Pictures and symbols on birch bark
    3. Tribal history of Ojibwas
G. Decoration
    1. Beadwork
        a. Main art of Ojibwas
        b. Used extensively
    2. Paint and feathers
        a. Decoration of shields with paint and feathers
        b. Painted symbols on wigwams

XI. Dress
A. Everyday dress of men
    1. Buckskin shirt, long, reaching to knees; had sleeves and was drawn over the head
    2. Leggings, long, reaching to hips; fastened to belt by straps
    3. Moccasins, beaded, fringed
B. War dress of men
    1. Breechcloth
    2. Leggings
    3. Numerous pairs of moccasins
    4. War bonnet—band of feathers around head and hanging down back
C. Women's dress
    1. Dress, of tanned skin, hanging to knees, and decorated with beads and wampum
    2. Fringed leggings
    3. Moccasins, beaded, fringed
    4. Headdress, large beaded ornaments over ears; long spangles hanging to shoulders
D. Children's dress
    1. Made of skins, beaded, fringed
    2. Furs worn in winter
    3. Feather headband with two feathers in back

XII. Weapons
- A. War clubs
- B. Tomahawks
- C. Shields, circular, made of raw buffalo hide
- D. Bows and arrows

XIII. Transportation
- A. Canoe most widely used among Ojibwas
- B. Bull boat, circular vessel, made of skin and shaped like a tea-cup or tub
- C. Travois
  1. Two poles crossed over horse's or dog's back
  2. Other ends far apart and held by crosspiece
  3. Rawhide between bars
  4. Pulled by dogs or ponies

STORIES FOR STUDY OF THE OJIBWAS[1]

AMIKONS

A LONG time ago a fat little beaver, whose name was Amikons, was swimming around in a river. For a long time there had been ice on top of the river, but now the ice was almost gone. Amikons was glad that the ice had melted, for he had bumped his head on it many times. He dived down to the bottom of the river and caught up the soft black mud in his paws. Then he sat down on his nice fat tail and watched the river steal the mud out of his paws and float it away. He began to wonder whether it really was all water, especially up at the top where he had bumped his head, so up he jumped and kicked with his feet and with his tail. Before he knew it he had jumped himself nearly all out of the water. "Of course it's all water, I knew it was," he said. Then he lay on his side and floated along like a baby on a pillow.

He opened his sharp little eyes and looked around. He saw some tiny fishes under him. He looked up at his Great

[1]These stories, with three exceptions, are adapted from *The Childhood of Ji-shiḃ, The Ojibwa*, by Albert Ernest Jenks, with permission of the publishers, Mentzer, Bush & Co., Chicago. "Ji-shiḃ's Cradle," "Ji-shiḃ's Home," and "Making the Canoe" were written by the author of this department, using the characters in *The Childhood of Ji-shiḃ*.

Father, the Sun. The first thing he knew he smiled at the Sun and then his Great Father, the Sun, smiled at Amikons.

"How fast I am going," said Amikons, when suddenly—bum-m-!! "O dear me! What is this dreadful noise? O my nose! Perhaps the water is hard on top after all! O dear! O dear!" and the little beaver almost cried out loud.

Just then two tears came into his closed eyes. "Amikons, let us out," they pleaded. "Let us out quick, Amikons." To please them the good little beaver opened his eyes and there close to him was the post of a great beaver dam. The beavers gnaw down trees to get the wood to build dams in brooks. These dams cause the water to spread out and form a pond. In the pond which they have made the beavers build their houses of sticks, grass and moss woven together and plastered with mud. The beavers make many rooms in their houses. Amikons' father and mother and aunts and uncles had built their house the fall before. Amikons crawled up on the post of the beaver dam and lay down. He felt of his nose. My, how it hurt! He lay there and combed the water from his fur with his hind feet, listening to the soft air whisper in his ear, "I am Seewung, I am the Spring." Amikons looked up and again smiled at the Sun. The Sun looked down on him and said, "I am Seewung, I am the Spring!" Amikons felt very happy. He touched his nose and found that it did not hurt at all.

AMIKONS SEES THE INDIAN CANOES

WHILE Amikons was lying on the post, five large canoes came down the river and went swiftly toward the dam.

"Tang-g-g-gh!" something shrieked. Amikons dodged his chubby head. Before he could say "Jack Robinson" the post was nearly knocked from under him. He felt someone pulling him under the water by his tail and he knew that his mother was talking to him. She was holding his tail in her mouth and dragging him away. "Don't you know an Indian when you see him?" she said.

They stopped underneath the dam with their heads out of the water. One of the canoes came toward them. An Indian in the canoe pulled his arrow out of the post. This was on the post where Amikons had been lying. All of the canoes were paddled to the shore above the dam. Indians and squaws and children and dogs jumped out. The dogs barked and ran about and everyone was laughing and talking.

Soon they began to unload their canoes and carry their bundles around the end of the beaver dam. There were a great many buffalo robes and elk skins and about sixty sacks of pemmican. This was dried buffalo meat which was torn in small pieces, pounded fine, and packed in buffalo skin bags. Pemmican was the food which the Indians ate in winter.

"There is War Eagle," said Amikons' mother, pulling his ear. "If he had shot at you while you lay on the dam, you would not be here now. He never misses what he shoots at."

Amikons watched the Indian whose name was War Eagle. He was a tall chieftain. He carried a large sack of pemmican. Then came Pine Tree, his squaw. She did not carry so large a sack of pemmican as War Eagle. Amikons thought that War Eagle must be a good hunter, for his canoe was heaped high with furs. It was almost evening before War Eagle's canoe was all unloaded.

Amikons hid among the rushes near the shore. Here he could watch and listen.

THE BIRTH OF JI-SHIB'[1]

AS AMIKONS lay among the rushes he heard the faintest little cry. Then he saw Pine Tree, War Eagle's squaw, come out of the forest. She walked straight down the river bank to the water's edge and there she stooped down and opened her arms. From the folds of her blanket she brought a tiny Indian baby. How rosy and soft and beautiful it was! How gently the mother bathed it in the cold fresh water! The little beaver wanted so much to touch the tiny thing with his warm fur.

The happy squaw laid the naked baby next to her warm mother's breast. She covered it with her blanket. As she walked away Amikons heard her sing this pretty song:

O my little Blue Bird,
O my little Blue Bird,
Mother knew that you would come,
Mother knew that you would come!
When the ice lets go the river,
When the wild-geese come again,
When the sugar-maple swells,
When the maple swells its buds,
Then the little blue birds come,
Then my little Blue Bird came.

[1] Pronounced "She-sheeb."

The little beaver had never heard anything so sweet and he had never seen anything one half so beautiful as that little baby. He forgot that he was a beaver and came right out of the water. He listened and looked and trembled with joy.

As the squaw came near War Eagle, she stopped singing, and said, "My husband, I have brought you an Ojibwa warrior." When War Eagle heard this he went to meet her. "Yes, I see you have," he said. Together they looked at the new-born baby. War Eagle was very proud. "He will be a brave warrior," he said. Then they started around the dam, and the little beaver followed.

War Eagle heard a slight noise behind him. Turning around quickly, he saw the little beaver almost at his feet. "Tang! Whist!" hissed his arrow.

As Amikons walked after the squaw he was humming to himself:

O my little Blue Bird,
O my little Blue Bird,
Mother knew that you would come,
Mother knew that you would come!
When the ice lets go the river,
When the wild-geese come again,
When the sugar-maple swells, ...

He did not hear the hissing of War Eagle's arrow. But suddenly it grew dark and he could scarcely breathe. He thought that he must be asleep.

Then it grew light again. His Father, the Sun, was so warm and close to him. The little beaver hummed with joy this little song:

When the sugar-maple swells,
Then the little blue birds come,
Yes, my little Blue Bird,
I have come, Amikons has come.

Over and over again for days he sang to himself this song. One day he awoke, and he found that his warm fur was touching the Indian baby. Then Amikons was very happy. He would always be near the little Indian baby.

THE NAMING OF JI-SHIB'

AMIKONS was very happy because he was with the little Indian baby. He was glad that his fur was touching his little Blue Bird as he floated down the river with War Eagle and Pine Tree and the baby. They floated along in their birch-bark canoe. At night they stopped on shore where other Indians were building their wigwams. War Eagle helped Pine Tree build a wigwam. When the wigwam was finished War Eagle gave a feast. This feast was to be a naming feast in honor of little Blue Bird, for he had not been named yet. Blue Bird was the name that his mother and Amikons had given him. Now he must have a real name.

So War Eagle invited all the braves in the village. In the evening they came silently into the wigwam. Their squaws came too, carrying their babies on their backs. They all sat around the bright fire and the braves smoked pipes. That day War Eagle had killed a deer and some ducks along the river. Indians liked deer meat and they liked duck meat. They were glad when Pine Tree placed before them dishes full of these meats. The dishes were made of birch bark.

After they had eaten they were silent for awhile. Then an old Indian stood up. He spoke to little Blue Bird. Little Blue Bird lay blinking in his wooden cradle and could not understand what the old Indian said to him. But Amikons' fur was wrapped around the Indian baby and Amikons heard all that was said.

The old Indian said to the baby, "You must be a great warrior like your father. You must be a great hunter." He sat down. They were silent and smoked again. Then the oldest Indian in the wigwam stood up. His face was full of wrinkles and his hair was white. He was to name the baby. Everyone listened to hear his name. Finally, the oldest Indian spoke. He said, "The son of War Eagle shall have a great name. He shall be named after a little animal that is very useful to the Indians. It flies over the wild rice fields. It gives food to the Indians. This evening you have eaten of

the wild duck. The baby shall be called 'Ji-shiḃ, the Duck.' "

Everyone looked at Ji-shiḃ. He was sound asleep by this time, but the little beaver was not asleep. His warm fur touched the baby and kept him warm. He knew that some day War Eagle and Pine Tree would tell the baby all about his naming feast.

JI-SHIB"S CRADLE

WHEN Ji-shiḃ was a baby he lay in a "tiki-nagan." Now what do you suppose that was? A tiki-nagan is a cradle, but not like any cradle that you have ever seen. Tiki-nagan means a little house inside a house. And that is just what Ji-shiḃ's cradle was.

Pine Tree was very happy to make a cradle for her little Blue Bird. First she took a flat board made of wood from the poplar tree and on this board she fastened a small frame of thin peeled wood. This frame was about the size of Ji-shiḃ's small body. Pine Tree fastened the frame on with bast, a fiber from the bark of trees. The Indians did not have nails or screws. The frame stood out from the board. The baby's feet rested on the bottom. There was a little roof over the baby's head.

Next, Pine Tree filled the frame with fine dry moss. This made a warm soft bed for the baby. Then Pine Tree laid Blue Bird in the frame. She carefully straightened out his

little legs and made him lie very straight. Then she packed him in his cradle. First she wrapped him in his beaver skin. Then she wrapped him in other coverings up to his chin. She tied him to his cradle so that he could not fall out. She left his arms out so that he could play. What do you think he played with? He had no rattles. He had no dolls. We would think his playthings very odd, but he liked them. They hung from a circle of wood which was fastened to the top of the cradle. The playthings dangled in front of the baby's face. There was a pair of moccasins. If Ji-shiḃ played with these, he would be a swift runner. There was a small bow and arrow. They would make him a good hunter and brave warrior.

Sometimes Pine Tree propped the cradle up against a tree and sometimes she strapped it to her back while she worked. Sometimes she placed it in the wigwam.

JI-SHIB"S HOME

JI-SHIB"S home was in the forest. There were many other Indian homes near Ji-shiḃ's. The Indian houses were not like our houses. They were called wigwams. The wigwams were in a village. The name of the village was "Rice Lake Village." It was called Rice Lake Village because it was on the shore of Rice Lake.

All the squaws built the wigwams, so Ji-shiḃ's mother built a wigwam for War Eagle and Ji-shiḃ and herself. Pine Tree cut down some birch trees and she stood them on the ground in two rows opposite to each other. She bent the branches of the trees over and fastened the ends together, two and two. She tied the branches across the top with bast. Then the house looked like a great big basket. It was not finished yet because it had no covering. Rain could fall in through the branches. Pine Tree went to the birch tree. She took off its bark until she had many large rolls of it. She covered the house with the rolls of birch bark, so that the wigwam was very warm. Rain could not enter. Snow could not enter. Then Pine Tree hung a mat in front for a door and put mats

inside on the floor. These mats she wove of reeds. She built a fire in the middle of the wigwam. The smoke from the fire went out at the smoke hole in the top of the wigwam. With the brightly burning fire the little Indian home was very cozy. Amikons thought that this was a fine place for him and the baby.

INDIAN CHILDREN'S GAMES

WHEN Ji-shib was a little boy he played just as you do. He did not play the same kind of games, however, but he had just as good a time. The little Indian boys and girls played that they were grown-ups. The little girls built play wigwams of birch bark. The little boys were big Indian braves. They went to the forest to kill game. Ji-shib had his own little bow and arrow. He said, "I am going to kill a big bear." After awhile he came home to his play wigwam, and called, "Squaw, I just killed a great big bear. Go skin him. I am hungry." The little squaw went out to get the big bear. What do you think she found? Only a puppy that was whining because Ji-shib had dragged it along by its hind leg!

Sometimes the children played "hide and seek" among the wigwams. They ran laughing among the tall trees. Some days they waded in the lake. They had tiny birch-bark canoes. They floated these on the water. They played that they were going to the rice fields for grain.

Sometimes they played war. Part of the boys would be Sioux. The Sioux Indians were the cruel enemy of the Ojibwas. Ji-shiḃ was an Ojibwa. Part of the boys would be Ojibwas. Always the Ojibwas won. Then they would give a loud war cry just as their fathers did. Ji-shiḃ was always leader of the Ojibwas. He was a brave leader. One time when Ji-shiḃ led his warriors against the Sioux they gave such a loud war cry that even the dogs were frightened. They barked loudly. They ran under the wigwams with their tails between their legs. Their hair stood up straight on their backs. They must have thought that it was a real war.

In the evenings the Indian children loved to watch the little lightning bugs. They thought that as soon as it began to grow dark these tiny fire-flies lighted their candles. Sometimes they tried to catch them. They liked to sing this little song to the fire-flies:

Fire-fly, fire-fly, bright little thing,
Light me to bed and my song I will sing.
Give me your light as you fly o'er my head,
That I may merrily go to my bed.
Give me your light o'er the grass as you creep,
That I may joyfully go to my sleep.
Come little fire-fly, come little beast,
Come and I'll make you tomorrow a feast.
Come, little candle that flies as I sing,
Bright little fairy bug, night's little king.
Come, and I'll dance as you guide me along,
Come, and I'll pay you, my bug, with a song.

THE STORY OF THE BEAVERS

NEARLY every evening Ji-shiḃ's grandmother told him stories. He could not remember all of them. But there was one which he always remembered. This story was about the beavers.

"Many, many summers ago," the grandmother said, "beavers climbed trees like squirrels. They ran swiftly on

the ground like foxes. They did not eat ducks and birds. They ate nothing except wood from trees. The Manido, the Sacred Spirit, had given them large white teeth with which to eat the wood. They were very greedy. They used to gnaw down more trees than they could eat. So the Manido sent a message to them by the woodpecker. The message was that they should not cut down more trees than they could eat. If they did, very soon the woodpecker would have no tree in which to build her nest.

"The beavers did not listen to the message. They kept on cutting down trees. The Manido sent the beavers a second message. This time he sent it by the eagle. The eagle told the beavers that if they did not stop gnawing down trees the Manido would fasten a great load to them. Then the Indians could catch them and kill them easily. But still the beavers cut down trees. They had disobeyed the Manido two times. Then the Manido became angry. He did not send any more messages. But he sent a disease into the beavers' tails. Their tails swelled and burned. All of the fur dropped off. The beavers wanted to stop the burning so they dipped their tails into the cool water. Soon they saw that they did not have to drag their tails around any more. The water helped to hold them up.

"Now the beavers and ducks had always been good friends. This is easy to see because beavers did not eat ducks and ducks did not eat beavers. So the ducks told the beavers how to grow hind feet like their own. Before long the beavers could swim as well as ducks. But still they gnawed down trees. They rolled these trees into the rivers and creeks. Then they made dams. They used their big flat tails to spank down the mud. When the Manido saw all this he said, 'The beaver is the wisest animal that I have made. If I am ever in trouble, I shall send for the beaver to help me out.' "

The little beaver felt very proud when he heard this story. After a time Ji-shib came to know that the beaver was the wisest of all animals.

JI-SHIB′ KILLS HIS FIRST GAME

ONE morning Ji-shib took his bow and arrows and medicine bag. After a little time he came to an opening in the forest. Here he saw a rabbit sitting. Ji-shib stood very still and strung his bow and put an arrow on the string and pulled it back. "Tang!" said the bow string. The frightened rabbit jumped up and ran. Then it stopped. It fell over backward and lay very still. Ji-shib was very proud. This was the first time that he had killed any game. He took the rabbit by the hind leg and dragged it along. He had seen his father drag home a wolf a few days before in this way. It was such a heavy load that it made his arm ache. He had to stop and rest. He looked around him and he saw some raspberry bushes. He ate and ate the berries. He thought they were very good. Suddenly, he heard someone call, "Ji-shib! Ji-shib!" He turned and saw his father standing near him. He ran to him and hugged him. When he showed him the rabbit his father said, "Huh! a big hunter! I will not kiss a hunter. Come, bring your rabbit to the wigwam. Squaw is very hungry." So War Eagle started on and Ji-shib followed, dragging his first game at his side.

That evening Ji-shib's father and mother made a feast, called a boy's feast. The Ojibwa Indians always made a feast when a boy killed his first game. They invited all the people of the village. The old hunters made speeches. They all praised Ji-shib for killing a rabbit when he was so young. They said they knew that he would be a great hunter when he grew up.

JI-SHIB′ KILLS HIS FIRST BEAR

ONE winter there was no snow for a long time. The ground was frozen so hard that an Indian made a noise wearing even soft moccasins. The deer, the elk, the moose, and the bears could hear the hunters coming. Then they would run away, so the Indians could kill very little game that winter. War Eagle came home night after night without any game. The Indians were very hungry. At last they had to kill three of their dogs to eat.

Then it snowed very hard. When it stopped the hunters went out and killed two moose and an elk. The animals could not run in the deep soft snow. The hunters could go rapidly over the snow with their snowshoes. After that they had plenty to eat for awhile. Soon the sun came out very warm and melted the top of the snow. Then it froze over so that there was a thick crust on top. This crust would hold up a deer as well as a man. So again the animals could hear the hunters' steps on the snow and they ran away. Soon the Indians were starving.

Every night Ji-shib's father fixed his hunting medicines. He sang and prayed to the Sacred Spirit. Still he could not kill anything for food. One night he did not come home at all. For two days they had not eaten anything.

Ji-shib awoke in the night. He prepared his hunting medicine as he had seen his father do. He sang and prayed to the Sacred Spirit. While he slept, he dreamed that a beautiful young Indian came into the wigwam. He said to Ji-shib, "Tomorrow you shall eat a bear."

The next morning Ji-shib stole away from the wigwam when no one was looking. He took with him his own bow and some of his father's arrows. He also carried a flint tomahawk. After awhile he saw a path in the forest. He followed this path until he came to a small marshy place. Still he did not see any bear. All at once the snow broke through under him. He found himself in a hole up to his arms. He looked down, and there he saw at his feet the head of a sleeping bear.

Ji-shiḃ remembered that sometimes bears sleep in their holes all winter and that sometimes hunters kill them while they lie buried. With his tomahawk he struck the bear twice between the eyes. When he saw that it did not move he knew that he had killed it.

He crawled out of the hole and ran home as fast as he could go. He ran into the wigwam to tell his father and mother what he had done. They were very happy to hear that their son had killed his first bear. That day the hunters dragged the heavy bear to the wigwam and another boy's feast was given for Ji-shiḃ, because that was the first bear he had killed.

MAKING THE CANOE

THERE were many lakes in the country where Ji-shiḃ lived. The Indians crossed these lakes in canoes. War Eagle needed a new canoe. In the month of strawberries, Ji-shiḃ went with his father to help him make a canoe. They hunted for a birch tree. They found one that stood straight and smooth. It had no limbs near the ground. They cut a circle around the tree near the ground. They cut another far up the trunk. Then they cut a gash from one circular cut to the other. The bark sprang away from the tree trunk with a gentle swishing sound.

Ji-shiḃ and his father took it home. Pine Tree sewed it together. It had to be sewed so that it would cover the canoe frame. For thread Pine Tree used the slender roots of the spruce tree. Ji-shiḃ and his father made the frame of cedar. When it was finished it looked like the skeleton of a great fish. This frame they placed on top of the bark. Then they gathered the bark up on both sides of the ribs of the frame. Next they took a strip of cedar wood and bound it along the upper edge of the canoe. Four boards, which looked like seats, were fastened in. But they were not used for seats. They were put in to help shape the canoe. Still the canoe was not finished. It had to be water-tight. They turned it upside down. Ji-shiḃ and his mother melted pine pitch and poured

it over the seams. This was to make them water-tight. Then they would not leak. When it was finished they carried it to the lake. It floated like a bubble.

MAKING ARROWS

THE Indians used bows and arrows to get their food. They used them to kill their enemies.

One afternoon in the late summer a canoe came around the bend in the river. It was the canoe of old Má-kwa. Má-kwa was Ji-shiḃ's grandfather. All summer Má-kwa had been at the workshop. The workshop was away up the river. There was a quarry there, too, where the Indians got flint to make their arrowheads. Ji-shiḃ had never seen the workshop. Má-kwa showed Ji-shiḃ a great many arrowheads. They were wrapped in little bags of buckskin. Before the sun set that evening every wigwam in the village had some of these arrowheads.

In three days Má-kwa was to return to the workshop. Ji-shiḃ wished, oh! so much, to go with him. He begged Pine Tree to say, "Yes." When she told him that he could go he was very happy. He could scarcely wait until the canoe came to the place where the workshop was. Here he saw many old Indians. Ji-shiḃ did not know them for they were from other

villages. The ground was covered with chips and splinters of rock. Old Má-kwa and Nes-se-win had their own wigwam. Inside their wigwam was a pile of thin slabs of rock. These slabs were about as large as an Indian's hand.

Nes-se-win laid a piece of buckskin on his hand. On this he placed a large slab of flint. He held it down firmly. Má-kwa took his deer-horn chipping tool and placed it against the flint. Then he struck it a quick blow with a wooden mallet. Every time he struck it, a chip flew off. Nes-se-win kept turning the flint over and over in his hand. Má-kwa kept chipping it away. As he struck with his mallet, Má-kwa would sing this little song:

Nes-se-win holds the flint,
While Má-kwa chips it out.
Nes-se-win holds the flint,
While Má-kwa chips it out.

Ji-shiḃ liked to hear Má-kwa sing this song. He kept time to the stroke of the mallet. The arrowhead was becoming very sharp. It was so sharp that it would be used to kill the enemy. Now Má-kwa changed his song. Ji-shiḃ sang with him:

I give you the war-bird's eye
To see the enemy's heart;
I give you the war-bird's eye
To see the enemy's heart.

Then Má-kwa chipped two sharp barbs at the base of the arrowhead. This time he sang:

I give you the war-bird's claws
To tear the enemy's heart;
I give you the war-bird's claws
To tear the enemy's heart.

Everywhere about them the old Indians were working busily. They all sang as they worked. Ji-shiḃ thought that he would like to stay in the workshop all summer. Before he left he chipped an arrowhead for his own little shaft.

GATHERING WILD RICE

JI-SHIB′ liked wild rice better than any other grain. All the Indians liked wild rice. The wild rice grew in the river. The green stalks stood high above the water. They looked like fields of wheat growing in the river. In the fall of the year the grain turned yellow. Then it was ripe and the Indians knew that it was time to harvest it. This was the work of the squaws. They got into their canoes and paddled down the river. Soon they came to the rice fields. The tall waving stalks were higher than their heads. The squaws drew the stalks over the side of the canoe. They gathered their canoes full of grain and paddled back to the village.

Ji-shib helped to take the rice out of the canoe. It was spread on a rack over a slow fire. This was to dry it. Ji-shib kept the fire burning the first day. He had to find sticks for the fire. He was careful not to let it burn too high. If it had, it would have burned the rice and the rack. Each day Ji-shib's playmates took turns in tending the fire. They carried the rice to the rack. After it was dry it was carried to a threshing hole. This was a large hole dug in the ground. A deerskin was spread in the hole and the hole was filled with rice. Ji-shib's father put new moccasins on his feet and stepped into the threshing hole. There he danced and stamped around until he had threshed the hulls all off the kernels.

Ji-shiḃ's mother took the grain and hulls out of the deerskin and she put a little at a time into a large tray. This tray was made of birch bark. She held the tray in front of her. She shook it until what do you suppose happened? Soon the hulls were shaken to the top. They went over the edge of the tray and fell to the ground. All that was left in the bottom of the tray was clean grain. It was ready to cook. Sometimes Pine Tree boiled it in stone vessels.

The Indians stayed near the rice fields for three weeks. Every night they feasted and told stories. How Ji-shiḃ loved to listen to these stories! How he loved to watch the Indians dance in the firelight! During the day they shot wild duck in the rice fields. Ji-shiḃ was very sorry when the rice was gathered and harvested. Then his father and mother and all the other fathers and mothers took their bags full of delicious grain and went back to the village.

HUNTING

WHEN we want meat for dinner, our mothers go to the grocery store or to the butcher shop. When Ji-shiḃ's mother wanted bear meat, she had to wait until War Eagle went out into the forest and killed a bear. The Indians ate other kinds of meat. They ate deer meat, buffalo meat, and rabbit. Sometimes they killed porcupines to secure their quills.

The animals were not easily hunted. War Eagle had different ways of killing the deer. One way was by catching the deer's neck in a rope. Another way was by driving sharp spikes of wood into the ground in the deer path. These were placed at the other side of a log over which the deer would jump. When the deer jumped over the log they would fall on these spikes and be killed. Sometimes the Indian hunters drove the deer into the water. The deer could not swim as fast as they could run and when they were out of their element they were captured. In winter, a short chase in the deep snow would soon tire them. Then the hunters could kill them easily. The Indians also used the bow and arrow to kill

the deer, when they found them feeding on grass on the banks of rivers or lakes.

Twice every year all the Indians in Rice Lake Village, where Ji-shiḃ lived, went on a buffalo hunt. They liked buffalo meat better than any other meat. Where Ji-shiḃ lived there were many, many buffalo. They roamed through the woods. They lived on the plains, too. They were great, shaggy animals with large heads. They had black horns. They always went in droves. There were so many of them that they made the earth shake when they ran. The Indian men would take their strongest bows and arrows. They would jump on their ponies. Off they would go to bring back meat for their families.

When Ji-shiḃ was only four years old he begged his father to take him on the buffalo hunt. War Eagle said, "My son, you must wait until you have seen more moons!" What do you think he meant by that? He meant that Ji-shiḃ must be older before he could go. Ji-shiḃ was eleven years old before he went with his father. That day they saw many, many buffalo feeding in the forest. All the Indians rode quietly toward them. Then they began to shoot their arrows. Ji-shiḃ drew his bow. He was not sure that he killed a buffalo. There were many hunters who killed buffalo. When they went to take the buffalo home, War Eagle said, "Look! My

son has killed a buffalo! Here is his arrow!" And sure enough, he drew out Ji-shiḃ's bone arrow from the body of a buffalo cow. War Eagle was proud of his son. Ji-shiḃ was very happy when he laid his share of the hunt before his mother.

JI-SHIB′ AND THE EAGLE

JI-SHIB′ and some other little Indian boys were playing war. Ji-shiḃ wanted some eagle feathers to put in his hair. He wanted to look like War Eagle, his father. He said to Wabasha, his chum, "I know where there is an eagle's nest. It is high on top of a cliff. Let us climb up there. I will shoot the eagle with my bow and arrow. We will have many pretty eagle feathers. We will look like Indian chiefs."

Ji-shiḃ and Wabasha started out. They followed a creek for a distance until they came to a lake. On one side of the lake was a high jagged cliff. They began to climb up the cliff. It was very steep. Some of the rocks were bare and others were covered with green moss. Very few trees were growing on the cliff. Higher and higher they climbed. Ji-shiḃ said, "We are nearly there." They were very tired and they stopped to rest. They looked out over the beautiful blue lake.

Suddenly they saw a large bird flying over the lake. It was carrying something in its claws. It was an eagle! She was

carrying a young grouse to her babies. Very soon she flew into the cliff some distance away. Then Ji-shiḃ and Wabasha heard the cries of a nestful of hungry young birds. The boys climbed up the cliff slowly. It was very steep. Sometimes they almost fell. They would catch hold of the pine trees that grew here and there. It took them a long time, but finally they reached the nest. There were two young eagles in the nest. They were scarcely a week old. Ji-shiḃ said to Wabasha, "I will get the young eagles and climb down with them. You shoot the old eagle if she comes back. She will be very angry when she sees us near her nest. She will try to hurt us."

Ji-shiḃ was right. Very soon a loud cry of anger was heard. The mother eagle was returning to her nest. She seemed to know that the boys were going to rob her of her babies. She thought Ji-shiḃ was her dangerous enemy because he had the young eagles. She turned to fight him. Again and again she flew at him. Wabasha began to shoot his arrows. They did not kill her but they kept her from touching Ji-shiḃ. Her feathers were so thick and large that the arrows could not go through them. She became bolder. She struck Ji-shiḃ a cruel stinging blow with her wings. Wabasha had used all his arrows. Ji-shiḃ knew that if he did not kill the eagle, the eagle would kill him. So he drew his knife from his breechcloth and then waited for a good chance to strike. Just then the eagle came to sink her cruel claws in Ji-shiḃ's side. Then Ji-shiḃ struck. The eagle did not finish her fierce cry. She fell crashing down the cliff.

Ji-shiḃ and Wabasha were afraid the eagle's mate would come. Ji-shiḃ made a cradle for the little eagles. He made it of his breechcloth. He tied the eagles in their new cradle and climbed down the cliff. At the bottom they found the dead mother bird and carried her home for her beautiful feathers. They made a nice wigwam cage for their new pets. They made it of willow twigs. They placed it on a platform in a tree which was just outside their wigwam. All the boys and girls in the village loved the little eagles and they caught small game for them to eat.

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An Alaskan-Eskimo woman with her child strapped to her back

ESKIMO LIFE

The Eskimo represents the direct response of man to a distinct type of environment. The Eskimo lives in a land where wood is known only as it drifts along the icy shores and where snow, ice, stones, bones of animals, and driftwood are the only materials available for buildings. Therefore they use what is at hand in the construction of their dwellings.

It is important that the pupils learn the close relationship between the characteristics of a country and the general habits of the inhabitants of that country. Natural resources, that is, the kind of building materials available, strongly influence the building arts. The presence of stone will lead to a rapid development of the art of building, while its absence seriously affects the development of this kind of building art. Climate is another factor which influences building. In the cold North, where snow and ice are prevalent for the greater part of the year, buildings which are unique on the face of the earth are constructed out of ice and snow. The environment

of the Eskimo limits building to the very barest necessities, so that elaborate homes of wood, such as we live in, are unknown to these people of the far North.

It is not difficult for children to grasp the connection between the environment of these people and their homes, food, clothing, and occupations. The contrast between the simplicity of their primitive life and needs and our more complicated manner of living is outstanding. The children appreciate the difficulties encountered in procuring food and they see the Eskimo face to face with nature in the procuring of such food as seal, walrus, and polar bear. They readily see the physical hardship and danger involved in hunting these animals. At the same time they do not lose sight of our variety and richness of supply in relation to food, and the comparative ease with which we acquire it.

THE ESKIMO PROJECT

ESKIMO Life should be taught only in an environment where there is enough snow in the winter so that the children have at least a slight appreciation of what it would mean to be surrounded by snow the greater part of the year. This would lead to an appreciation of what it might mean to have so much snow that one might build one's winter home of it. The subject should not be taught before the second grade, as the imagery of some phases of Eskimo life depends upon greater experience than first-grade children have.

APPROACH AND METHOD OF TEACHING. The approach may be made through stories of an Eskimo child or children, in much the same way that the Indian Study is based upon the life of Ji-shiḃ. If the subject is taught in the second grade, these books may be used for the children's reading:

HAWKES, E. W. *Eskimo Land.* Boston: Ginn and Co.

PEARY, R. E. *Snowland Folk.* New York: Frederick A. Stokes Co.

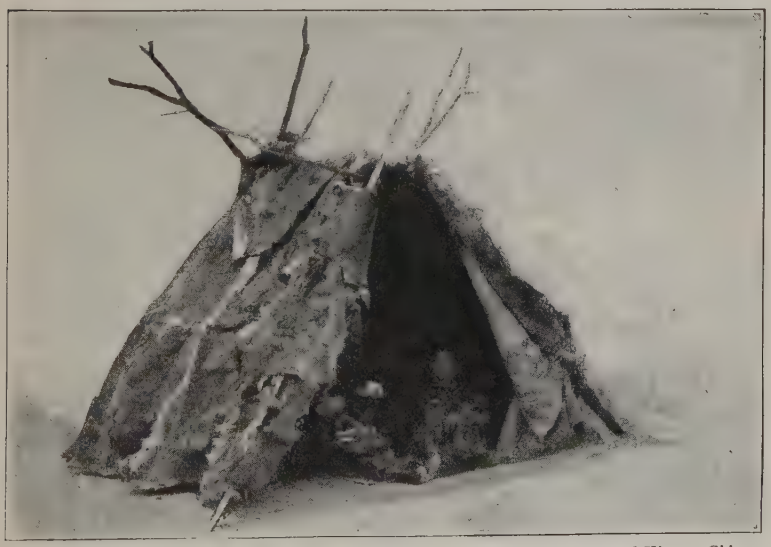
PERKINS, L. F. *The Eskimo Twins.* Boston: Houghton Mifflin Co.

SCHWATKA, FREDERICK. *Children of the Cold.* Boston: Educational Publishing Co.

SMITH, M. E. *Eskimo Stories.* Chicago: Rand McNally & Co.

The teacher may begin the study by telling a story about two Eskimo children, a boy and a girl, whose names are Took-too and Nyla. The teacher describes the country where they live, a country of ice and snow, of long winters and short summers, a country so cold that few trees grow there. The children in this cold country live in houses that are different from our houses, dress in warm suits made of fur, and eat food that is different from our food. The teacher must emphasize the fact that they like their homes and clothing and food just as much as we like ours.

Perhaps the first story will be a description of the snow house in which Took-too and Nyla live. The teacher must not give the impression that the snow house is the only kind



Courtesy of Field Museum of Natural History, Chicago

Summer homes of Labrador Eskimos are made from skins stretched over bones

Courtesy, Field Museum of Natural History, Donald MacMillan, and American Museum of Natural History

(Above) A Kadiak-Island Eskimo with hunting spear. (Center) Greenland Eskimo children. (Below) Labrador Eskimo spearing fish from kayak

Courtesy, Field Museum of Natural History, Donald MacMillan, and American Museum of Natural History

(Above) Wood-Island Eskimo hunter. (Center) A Labrador Eskimo igloo built from snow blocks. (Below) A typical Greenland-Eskimo dog team

of dwelling of the Eskimo. As a matter of fact, several kinds of dwellings are used by these people. One is the large winter house entered by a long underground passage, the low walls of which are constructed of whalebones, stones, or driftwood, while the house itself has a framework of timbers or whale ribs covered with earth. The summer houses are mere shelters of driftwood or bones covered with skins. Another winter home is the snow house, or igloo, which is used by the Eskimos while residing temporarily in a place. The story of how the igloo is built may be told as follows:

HOW THE ESKIMO BUILDS THE IGLOO

Took-too and Nyla do not live in a house like yours. In the summer they live in a skin tent, but in the winter they live in a snow house. When it becomes very cold Ovak, the children's father, begins to look for a good place to build their house. Ovak and Katok, his wife, walk around and around in their soft snowshoes, looking here and there at the drifts of snow. Some drifts are too hard and some are not hard enough. Finally they find a drift of snow that is just about right. It is about four feet deep. That is as deep as you are tall, isn't it? Ovak digs a little pit with his shovel to get a good starting place for cutting the blocks. Then Ovak and Katok begin to cut large blocks of snow with their hunting knives. These blocks of snow look like huge dominoes and are larger than bricks. Ovak takes the first block and puts it on edge the way a domino would stand on the table. With his hunting knife he cuts off the inner edge just enough for the block to lean toward the inside. He puts the second block on edge just as he did the first one, and so on until there is a circle of snow blocks.

After Ovak and Katok have finished the first row they begin on the second. Ovak looks carefully over the whole circle of blocks and chooses a place to begin the second row. Once he has started the second row he leans each block against the one previously set up, so that the wall rises in beehive shape. Everywhere between the blocks there are cracks, some narrow and some wide. Katok now starts rubbing soft snow into these openings, filling up each opening.

When all is finished Katok throws shovelfuls of snow upon the top. The door to this snow house is a hole closed

by a slab of frozen snow. It is reached by a tunnel just high enough for a man to crawl through. The window is a sheet of clear fresh water ice, which lights the house nicely. Many Eskimos build their winter houses of stone, chinked and covered with earth and moss and banked up with snow, and some Eskimos build their houses chiefly of wood.

The inside of Took-too's and Nyla's house does not look like yours. After the tunnel has been dug, the bedding is taken in and, as you may know, this is the most important part of the house. A layer of deerskins with hair down is spread to cover the entire floor except where the cooking is done. Over this layer is spread another layer of deerskins with the hair up. On one side of the room Ovak made a platform of blocks of ice on which were thrown caribou and reindeer skins.

HEATING THE IGLOO

Perhaps you are wondering how this snow house is heated. The Eskimos do not burn coal. In fact they have no coal and the only wood that most Eskimos ever see in their frozen land is that which drifts in from the icy seas or the timbers of some shipwrecked boat. So they use the oil of the seal instead. They make a lamp out of a stone. They hollow out the stone until it is moon-shaped, and when it looks something like a moon-shaped trough they fill it with brown seal oil. They use a flat piece of moss for a wick, which they put on the edge of the trough, dipping one end in the oil. The wick burns with a steady white flame and, strange to say, this little lamp gives off a good deal of heat.

When our houses become too warm we either open the windows or let the fire go down in the furnace. What do you think Ovak and Katok do? They either put out the fire or make a hole in the roof and allow the house to freeze again.

CONSTRUCTION OF THE PROJECT

After the children have listened to the story they may wish to make a house like the one in which Took-too and Nyla lived. Many teachers feel that this representation can be made on the sand table, using miniature bricks of clay to construct the igloo and covering the whole scene with a salt mixture, or cotton batting to represent snow. A much more

interesting igloo is one made from actual snow out in the school yard after there has been a heavy snow. If the weather is cold enough, there will be an opportunity for the children to cut their snow blocks and place them in much the same way that the Eskimos follow in building their igloos. The building of a large igloo outside will lead to the dramatization of many activities of the Eskimos, such as sewing, preparing skins, preparing the food, and hunting.

If the place of the Eskimo scene is on the sand table, the children will wish to dress dolls to represent Ovak, Katok, Took-too, and Nyla, or whatever characters are studied. This will lead to a description of the dress of the Eskimo, with accompanying pictures. Such stories as these will be told by the teacher:

Ovak Goes Seal Hunting
What Took-too and Nyla Eat
Hunt for a Walrus
Took-too's and Nyla's Playthings
The Kayak

Eskimo life makes a strong dramatic appeal to children because there are so many activities in connection with the life of these people—especially the different kinds of hunting —that the Eskimo may have clothes to wear and food to eat. The study supplies opportunity for many kinds of expression: drawing, modeling, sand-table work, dramatization, and building outside. These are the means the children take to put into concrete form the impressions and stories of the Eskimo. They may also work out new adventures suggested by the stories told by the teacher, or by stories which they read. They model a lamp of clay; make a sledge of sticks to which they harness Eskimo dogs modeled of clay; they make a kayak out of wood or clay over which they stretch a piece of skin, or they may show on the sand table the men coming home from a successful seal hunt.

They may make Eskimo books in which they keep the stories which they have composed, their drawings, and their cuttings.

OUTLINE FOR THE STUDY OF ESKIMO LIFE

The following outline suggests the order in which the topics are taken up:

I. Setting.
   A description of the country of the Eskimo.

II. Description of Took-too and Nyla, or any Eskimo children about whom the stories are told.

Took-too and Nyla have straight black hair, with round faces out of which peer restless, little black eyes. They are short and plump, with square shoulders, short necks, and small hands and feet. They have small, flat noses, yellow, oily-looking skin, and red cheeks.

III. Their home.
   The building of the igloo.
   Materials used.
   How built.
   How furnished.

IV. Food.
   The Eskimos eat most of their food raw, or wholly or partly frozen.

Their food consists mostly of the meat of the animals they kill. Usually the main part of their food is the meat of the seal, the whale, the walrus, and reindeer. They also hunt smaller animals, such as rabbits. They like to eat fish and fowl.

V. Clothing.
   Took-too and Nyla wear jackets and trousers made of the softest skins of the reindeer trimmed with rabbit skin and eider duck feathers. The reindeer skin is made into coats, dresses, stockings, and slippers for women. The men wear boots, coats, trousers, and raincoats made from sealskin.

An Eskimo boot is made in three pieces: the legging, the tongue or instep, and the turned-up trough or sole. The bootmaker cuts them out and hands them around to be sewed. This the Eskimo woman does, but before she sews

the pieces together, she must chew the edges so that they will be soft for the needle. Chewing of leather is the work of the Eskimo women, so that in the Eskimo home the women and girls seem always to be chewing and rubbing leather to make it soft. They cut the tissue from the neck of a dead seal, split it into strips, chew them and stretch them into thread.

VI. Boats.

The Eskimos use two kinds of boats: the kayak and the umiak. The umiak is a large open boat used by the women.

The kayak is the light skin boat used by the men. It has a framework of wood or bone over which is stretched sealskin, leaving a little hole in the middle. Into this hole the Eskimo puts his feet and sits down. He laces the skins tightly about his waist so that if the boat upsets no water can get inside. To make the boat go he uses a long stick with each end shaped like a paddle.

VII. Sledges.

The Eskimo sledges are usually about sixteen feet long and two and one-half feet wide with twenty-six crosspieces. Some Eskimo sledges have bone or wood runners and some have runners shod with strips of iron which the Eskimos have procured from the white man. Some Eskimos mix clay and moss with water in a pot and plaster this mixture while hot on the runners. It freezes instantly and must then be scrubbed to smoothness. The crossbars are tied to the runners with hide thongs.

VIII. Dogs.

The Eskimo dogs are larger and stronger than our dogs. In winter they pull the sledges over the snow and help their owners to hunt the polar bear and seal. Every Eskimo house has many dogs running and playing around the doorway. Their food is walrus hide an inch thick, which is cut into narrow strips a foot in length. They eat many strips at one meal but they get a meal only once in two or three days.

IX. The Eskimo baby.

The cradle of the Eskimo baby is a charming bag of baby

reindeer skin, soft and warm, for the fur is on the inside. Hung on the wall or propped against the end of the sleeping platform, the bag looks like a giant watch pocket. The baby spends most of its early days asleep in its bag or stuffed, feet downward, into the hood of its mother's sealskin or blanket coat. After awhile it spends most of its time in the depths of its mother's hood, its bright eyes peering over its mother's shoulder as she walks along.

X. Playthings.

Most little Eskimo girls play with dolls whittled out of a stick of wood. The little mother dresses it up in Eskimo clothes and makes a pocket for it, just like the ones real babies are kept in. Perhaps the little mother fixes a hood to her jacket and pokes the little doll, feet first, into the bag. At night she puts it to bed on a scrap of reindeer skin.

The boys romp and have lots of fun in the snow. They build little igloos; they play with the dogs and harness them to blocks of ice for sledges. They play with tops, toy shotguns, and drums.

XI. Hunting.

A. Seal hunting.

The seal comes to the surface of the water every so often to breathe so the hunter knows when there is a seal near by the hole in the ice where the seal has poked his nose. These holes we call blowholes and sooner or later the seal comes to them.

The hunter comes to within a short distance of the hole. He arranges all his hunting equipment and lies down to wait. There he stays, as still as a stone, stretched out on the ice, with his head toward the blowhole. After awhile the seal comes up to breathe, and with a flash the hunter sinks the harpoon—a barbed spear with a line and an inflated sealskin bag attached to it—into its fat neck, and the line is hissing down into the water as the frightened seal dives.

The moment the harpoon has struck, the hunter leaps to his feet and rams a sharp stake into the ice on which he loops his line. He is just in time to brace himself when the line draws tight and the seal stops with a jerk. In less time than

it takes to tell, the Eskimo is hauling his catch onto the ice.

The seal is the most useful of all animals to the Eskimo. It gives meat for food and oil for the lamps. The Eskimos wear boots, coats, trousers, and raincoats made of sealskin. The women cut the blubber off the seal in sheets and dry the membrane. This they make into waterproof clothing.

B. Walrus hunting.

The walrus is a huge animal with ferocious eyes, bristling whiskers, and great gleaming tusks. The Eskimo in his kayak is a match for the walrus. He uses his harpoon to kill it. Then he skins the animals, chops the meat into chunks, and divides it among the other hunters. All who see the capture must have a piece. Walrus hide is the best food for the dogs.

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